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CRITICAL CARE NURSES' PERCEPTIONS OF DNR STATUS

by

JOCELYNE THIBAULT-PREVOST



A thesis submitted to the Faculty of Graduate Studies and Research in partial
fulfillment of the requirements for the degree of MASTER OF NURSING

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Faculty of Graduate Studies and Research

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled **CRITICAL CARE NURSES' PERCEPTIONS OF DNR STATUS** submitted by **JOCELYNE THIBAULT-PREVOST** in partial fulfillment of the requirements for the degree of **MASTER OF NURSING**.

DEDICATION

To James, my husband and best friend, ... *for everything.*

ABSTRACT

The purpose of this study was to describe the perceptions and attitudes of nurses regarding the practices surrounding do not resuscitate (DNR) status in the critical care setting. With the unprecedented advances in health care technology, critical care nurses are becoming increasingly involved in the care of patients and families for which treatment decisions such as a DNR designation are considered. Placed in a situation which may create ethical dilemmas, critical care nurses may often be left to question the appropriateness of DNR designation. The questionnaire "Nurses' Perceptions Surrounding DNR Status in the Critical Care Setting" was used to collect data on the perceptions and attitudes of 405 critical care nurses toward DNR status. The majority of nurses do not define DNR according to its legal definition. Consequently, confusion was noted in initiating, withholding, and withdrawing treatment for the DNR patient. Nurses were generally unaware of existing hospital policies surrounding DNR designation. Interdisciplinary changes to education, practice, and health care policies are necessary to achieve patient treatment goals.

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CHAPTER ONE

Introduction

Critical care preserves vital physiological functioning while returning patients to their optimal state of health. Skilled nursing and medical monitoring are provided in critical care settings (CCS), as well as advanced technological modalities for patients who are critically ill. The expanding technology in health care, especially in CCS's, presents numerous moral dilemmas. Where advanced and complex technology is commonplace in CCS, it becomes necessary to make decisions about which specific treatments should be initiated, withheld, or discontinued.

Many decisions made surrounding patient care have bioethical dimensions. With the unprecedented advances in health care technology, critical care nurses are becoming increasingly involved in the care of patients and families for which these treatment decisions have to be made. One such treatment decision involves the "do not resuscitate" (DNR) designation. DNR orders are increasingly becoming a source of moral distress for critical care nurses who are specialists within a setting where the primary goal is health restoration. The nurse may feel helpless and frustrated when caring for the patient with a DNR order.

During the decision-making process of DNR orders for specific patients, the nurse may or may not be involved. Once the decision is made, the nurse is left with the implications of such a decision, not only in dealing with the

patient and family, but also in providing care. Placed in situations where the principles of beneficence, nonmaleficence, autonomy, paternalism, and justice may create ethical dilemmas (CHA, CMA, CNA, & CHAC, 1995; Miedema, 1993), critical care nurses may often be left to question the benefit of the critical care environment for DNR status patients. How do critical care nurses respond to these situations? The paucity of literature in this area indicates a need to explore and describe nurses' perceptions and attitudes toward practices surrounding DNR status in the critical care setting.

Purpose of the Study

The purpose of this study was to describe the perceptions of nurses regarding the practices surrounding do-not-resuscitate (DNR) orders in critical care settings. The specific research objectives were to:

- 1) identify nurses' knowledge of DNR status.
- 2) describe the attitudes of nurses towards DNR status.
- 3) describe the frequency that nurses encounter DNR orders in their practice.
- 4) determine the current practices of nurses surrounding DNR status.
- 5) determine the relationships among demographics, knowledge, attitudes, and practices of nurses involved in DNR status.

Significance of the Study

It is essential to understand the critical care nurses' perceptions surrounding the practice of DNR status so that, potential problems, conflicts

and the strategies used to facilitate delivery of nursing care can be improved. With awareness of the nurses' perceptions surrounding DNR status, nurse educators can then face the challenge of opening discussions in this area; pursue educated decisions on the definition and rationale for DNR; and provide the follow-up education to disseminate the information to promote consistency in defining DNR. Educators can also help explore feelings that are commonly experienced by nurses along with alternative coping mechanisms.

The results of this study may also be used to identify undefined areas that surround a patient's DNR status as well as to determine areas that require further education. By becoming better informed, nurses could be encouraged to participate in health care agency committees that develop protocols addressing such a complex dilemma.

With increased awareness of issues surrounding DNR status, unit staff may benefit from interdisciplinary discussions such as case conferences and inservices. Education of caregivers and communication among them might help to clarify what may be ambiguous policies and orders.

Awareness of predictors of DNR status may serve to provide objective information that will assist health care professionals provide care to meet the needs of critically ill patients. Overall, knowledge of practices surrounding DNR status may help develop and then present a systematic approach toward caring for patients designated as DNR.

CHAPTER TWO

Literature Review

Definition of Do Not Resuscitate (DNR)

Critical to a DNR discussion is a clarification of the term. The legal definition of "do not resuscitate" (DNR) is to not initiate cardiopulmonary resuscitative measures (CPR) at the time of cardiac and/or respiratory arrest (Campbell & Thill, 1996; Dwyer, 1988; Grant, 1993; Honan et al., 1988; Jezewski, 1994; Jezewski, Scherer, Miller, & Battista, 1993; Landwirth, 1993; Lewandowski, Daly, McClish, Juknialis, & Youngner, 1985; Lo, 1991; Rozovsky & Rozovsky, 1985, 1990; Simpson, 1994; Teres, 1993; Tittle, Moody, & Becker, 1991; Tucker, 1992; Youngner, 1987). CPR is understood to include mouth-to-mouth resuscitation, chest compression, bag-and-mask positive-pressure ventilation, intubation and defibrillation (CHA et al., 1995). The legal definition of DNR allows for other appropriate medical and nursing interventions including advanced therapies. However, DNR orders over time have become a paradigm for decisions of withholding and withdrawing other treatments (Teres, 1993; Youngner, 1987). The language of DNR can be ambiguous with terms used interchangeably and without precision creating confusion and misunderstanding in practice.

The broad range of meaning linked with DNR status, which not only includes withholding CPR but also the withdrawal and withholding of any medical intervention that uses mechanical or other artificial means to support

vital function only to postpone the moment of death (Bedell, Pelle, Maher, & Cleary, 1986; Jezewski, 1994; La Puma, Silverstein, Stocking, Roland, & Siegler, 1988), increases the complexity of DNR interpretation. Adding to the lack of a consensus to the meaning of DNR is also the recognized definition that a DNR order is a written agreement between physician and patient which releases health care personnel from employing life-sustaining efforts (Jezewski, Scherer, Miller, & Battista, 1993).

Thus, the term DNR can be misleading and no longer communicates the intent to only withhold CPR (Crimmins, 1993; Teres, 1993; Youngner, 1987). From a nursing perspective there seems to be strong agreement that DNR does not mean "no care" (Honan et al., 1988; Jezewski et al., 1993) nor does it imply withholding or withdrawal of treatment (CHA et al., 1995), but only no resuscitation (Jezewski et al., 1993). DNR does suggest that no resuscitation should be done; yet, resuscitation may include such modalities as providing intravenous fluids and/or oxygen (Crimmins, 1993). Consequently, even in the literature, withdrawal and withholding of medical treatment have become an integral part of the meaning of DNR.

Furthermore, a DNR order has come to have a different meaning late into the patient's critical care course, over 72 hours, indicating failure of aggressive therapy, than when it is used early in the critical care unit stay when it reflects limitations based on pre-existing processes (Teres, 1993).

Prevalence of DNR Status in Critical Care

The likelihood of critical care nurses being exposed to DNR status is significant. Lewandowski et al.(1985), in their study where they compare the care among medical intensive care patients with and without DNR, reports a prevalence of DNR orders for 14% of 506 patients in such a setting. In another study, of 146 intensive care unit (ICU) admissions, 17.8% were eventually designated DNR (Simpson, 1994). In this UK study, of 31 ICU deaths, 77.4% had been preceded by a DNR designation (Simpson, 1994). As well, Zimmerman et al. (1986) described 39% of all ICU deaths as preceded by a DNR order. Koch, Rodeffer, and Wears, (1994), Scanlon and Hylton Ruston, (1995), and Teres (1993) identify a clear trend for wider application of DNR. There is now evidence that the incidence of treatment withdrawal and withholding is increasing (Daly et al., 1996; Jayes, Zimmerman, Wagner, Draper, & Knaus, 1993; Jonsson, McNamee, & Champion, 1988).

An impression expressed by Dr. Gibney, the local regional medical director of adult critical care is that if critical care patients do not die within 48 hours of admission to the CCS, the majority of patients that die in the CCS will eventually be "understood to be" or designated in writing as DNR status. Some form of treatment withdrawal would also precede the death (Gibney, personal communication, 1996). Gibney (1996) also believed that

beyond 48 hours from admission, few patients are subject to "full codes" in the CCS.

Documentation of DNR Orders

Documentation of DNR status is important for at least two reasons: patient care and legal defence (Rozovsky & Rozovsky, 1985). A DNR order identifies the plan of care for patients and prevents patients from inappropriately receiving CPR. Legally, a written order substantiates the institution's perspective (Rozovsky & Rozovsky, 1985, 1990) as documentation establishes clear responsibility for the DNR decision and decreases suspicion, uncertainty, doubt, and anger that accompany vague and anonymous DNR decisions (Youngner, 1987).

The decision to issue a DNR order should be recorded in the patient's record and should document the following: the reason why a DNR order is proposed; the valid time frame; who is involved in the discussion; who gives consent, including if the patient is not competent to do so, and who is authorized to do so on his behalf (CHA et al., 1995; Rozovsky & Rozovsky, 1985, 1990).

Unfortunately, DNR decisions and specific treatment instructions have not been well documented (Evans & Brody, 1985; Youngner, 1987; Youngner et al., 1985). Physicians may not realize the importance of documenting orders properly and in the context of their busy schedules may feel documentation to be superfluous (Bedell et al., 1986; Youngner, 1987). Yet, fear of legal

consequences when documenting DNR decisions is stated as one of the most likely explanations which influences inappropriate documentation (Youngner, 1987). Some authors propose that writing a DNR order should be a shared function of medicine and nursing (Yarling & McElmurry, 1983), considering that the nurse takes on the responsibility of life and death when initiating or forgoing CPR at the time of cardiac arrest.

DNR orders have been documented as follows: DNR (do-not-resuscitate), comfort measures only, treat arrhythmias only, treat ventricular tachycardia, do not intubate, no CPR, treat with medications only, code 1, treat rhythm disturbances except asystole, no code, no ventilator, do not defibrillate, no code blue, no resuscitative medications, no CPR but may countershock and may use medications, no code but treat aggressively (Tittle et al., 1992a), slow code, partial code, chemical or pharmacological code (Youngner, 1987), all but CPR, do not institute heroic therapy, no ICU, do not add new therapy, withdraw life sustaining therapy, no transfusions, no antibiotics (Teres, 1993).

The various ways that DNR orders are written may be a source of frustration for the critical care nurse. Many DNR orders need further clarification according to the circumstance and leave nurses unclear as to their expected responsibilities to initiate resuscitation given certain situations (Youngner, 1987). It is therefore critical that hospital policies address such an issue as DNR status (Rozovowsky & Rozovowsky, 1990).

Rationale for DNR Orders

In the critical care literature dedicated to do-not-resuscitate (DNR) orders, the majority of authors do not make a distinction between DNR and the reasons that led to the DNR decision (Annas, 1982; CHA et al., 1995; Tomlinson & Brody, 1988). Yet, the reasons may affect other decisions that alter the treatment plan and care. The majority have placed the rationale of DNR orders all together with no distinction (Tomlinson & Brody, 1988). This confuses the issue not only in the literature but in practice as well. It has been reported that almost half of DNR orders do not have a written explanation to help guide treatment (Youngner et al., 1985). Proper understanding of a DNR order and its implications can not happen until the rationale behind it is known.

Rationale for DNR has been classified according to benefit with CPR as follows: 1) benefit is uncertain; 2) benefit is unlikely; 3) benefit is almost certainly unlikely. In the first category are classified patients for whom the outcome of CPR is unknown since the condition and prognosis before the arrest is not known. It is felt that treatment options including CPR should be communicated and explained to whomever is involved, that is, patient, family, caregivers. The assumption is that full life support is favorable. The situation should be reassessed as soon as information becomes available.

In the second category are classified those patients where chance of returning to pre-arrest condition is remote. Once communication about

treatment options is addressed with patient and/or family, quality of life now and after CPR if needed should be decisions left to the patient (if competent) and/or his family. The values used to make quality-of-life decisions are properly the patient's (CHA et al., 1995). In this context the physician needs the patient's permission for the treatment option, not merely his understanding (CHA et al., 1995).

In the third category, the patient's values have become irrelevant considering that recovery from an arrest has been demonstrated to be unlikely due to the underlying condition or the patient being permanently unable to experience any benefit. Certain such conditions have been identified as severe sepsis, severe lung disease, advanced renal failure, metastatic cancer, multisystem organ failure (Alpers & Lo, 1995; Cohen, Lefevre, Yarnold, Aaron, & Martin, 1993; Ebell, 1992; Lazzam & McCans, 1991; Senn, 1994; Snider, 1991). Patients under this rationale should not have CPR presented as a treatment option (CHA et al., 1995, Sanchez-Sweatman & Carlin, 1997). There is no ethical or legal obligation to provide CPR and no right for the patient and/or family to demand it. Futility-related decisions are medical decisions which are within the physician's medical expertise and are based on scientific rationale. If communication in regards to the decision is undertaken with the patient and/or family it should aim at helping them understand the decision that has already been made (CHA et al., 1995; Sanchez-Sweatman & Carlin, 1997). Yet, some authors suggest

that futility may override patient autonomy, because the outcome benefit is value-dependent, which can only be determined by the patient (Tomlinson & Brody, 1990; Truog & Brett, 1992; Veatch, 1994).

Consequently, the reason the order was written should be clarified. The logic which supports a DNR decision may or may not support other end-of-life decisions. With a clear identification of DNR rationale, the patient, the family, and all health care providers involved are aware of the decision (CHA et al., 1995; Sanchez-Sweatman & Carlin, 1997).

Policies and Legalities of DNR

Most health care facilities have not implemented well-developed policies for the type of nursing care to be given when a DNR order is written (Shelley, Zahorchak, & Gambrill, 1987). Part of the problem in establishing clear DNR policies of care may be in the negative, emotionally charged label, DNR, itself (Paris, 1982). Labels such as comfort care or compassionate care have been suggested (Paris, 1982). This implies more than the present legal definition of DNR.

It is the responsibility of health care professionals and health care facilities to ensure that appropriate DNR policies be available (CHA et al., 1995; Rozovowsky & Rozovowsky, 1985, 1990) to help address its legal and ethical aspects (Honan et al., 1988; Kellmer, 1986). It has been suggested that policies should be developed and implemented by committees

including lay people and representatives from medicine, nursing, social work, pastoral care, law and ethics (CHA et al., 1995).

The majority of nurses recognize the need that guidelines and/or policies for DNR status are essential (Honan et al., 1988; Miya, 1984) to standardize decisions that help reduce the controversies and frustrations that develop around verbal orders, slow codes, and lack of agreement or communication about DNR orders (Sanchez-Sweatman & Carlin, 1997; Saunders & Valente, 1986; Yarling & McElmurry, 1983). Yet, Honan et al. (1988) report that 72.6% of nurses in their study did not know if their hospital had a DNR policy.

A DNR policy should address the following items: 1) when and why DNR is indicated; 2) who is to determine and order the DNR status; 3) how and where the DNR status should be recorded; 4) how frequently the DNR status needs to be revised; 5) who can overrule a DNR decision and under what circumstances; 6) what documentation of patient/family wishes is required; and 7) who, if the patient is incompetent, can make substitute decisions (CHA et al., 1995; Kellmer, 1986; Rozovowsky & Rozovowsky, 1985; Youngner, 1987). Policies should also define which pathophysiologic events are considered part of cardiac arrest (Youngner, 1987) for example, rhythm disturbances versus asystole. Policies should also emphasize that DNR is not equivalent to medical or psychological abandonment of patients (Rozovowsky & Rozovowsky, 1985).

Although efforts on the part of hospitals to establish formal, concise, practical, humane, and clear DNR guidelines are necessary, policies cannot account for all patient circumstances or replace verbal communication and should not limit flexibility and judgment (CHA et al., 1995; Karlawish, 1996; Youngner, 1987).

As noted in the 'Rationale for DNR Orders' section issuing an order not to initiate CPR may be a medical decision (CHA et al., 1995; Rozovsky, 1984; Rozovsky & Rozovsky, 1985, 1990) requiring information on patient values and quality of life. Consequently, informed consent is required by law (Rozovsky & Rozovsky, 1985, 1990). In many U.S. institutions a signed informed consent is an expectation of their policy. However, integrating all the communication that should go into a DNR status designation into one form minimizes the essential ongoing dialogue required for such a sensitive issue (Nolan, 1987). In cases in which CPR is considered futile, a DNR order can be medically indicated based on medical expertise (CHA et al., 1995; Crimmins, 1993; Sanchez-Sweatman & Carlin, 1997), and therefore, an informed consent is not necessary, as it supersedes patient autonomy (CHA et al., 1995).

If patients are competent, they should act as their own agents in giving the DNR consent (Marsden, 1990; Rozovsky & Rozovsky, 1985; Stolman, Gregory, Dunn, & Levine, 1990). When patients are incapable of giving consent, most often the responsibility falls to the patient's family or other surrogate decision maker (Bristow Ott & Nieswiadomy, 1991; Council,

1991). As per Canadian law, if patients are not capable of giving permission, consent for a DNR should come from their guardians or legal representatives. If none are assigned, provincial law should be reviewed to determine whether a next-of-kin or official guardian may decide on the patient's behalf (Rozovsky & Rozovsky, 1985, 1990). In neonatal and pediatric settings, parents have been recognized to be the appropriate decision-makers concerning the care of their children (Yellin & Fleishman, 1995) when acting in the child's best interest.

Role of DNR Orders in Practice

The intent of the DNR order serves two purposes: communication among physicians as to the plan of care for the patient, and communication of that plan to nurses in order to clarify their responsibilities (Townsend, Vass, & Defontes, 1990). Unfortunately, confusion persists regarding the exact role of DNR orders in clinical practice. This confusion may arise from broader definitions of DNR being used (Jezewski, 1994), and failure to identify the reason why DNR was proposed (Tomlinson & Brody, 1988).

A DNR designation is a treatment order. It is the consequences of such an order that sets it apart from other treatment decisions (Rozovsky & Rozovsky, 1990). A DNR order may communicate that the patient and physician recognize that death is inevitable (Faber-Langendoen & Bartels, 1992); however, DNR orders are sometimes written for patients whose medical conditions are potentially reversible, as long as they do not arrest

which would signal irreversible deterioration (CHA et al., 1995; Youngner, 1987).

Characteristics of DNR Status Patients

In the few empirical studies that address DNR status in CCS, the diagnosis of the patients at the time of the DNR order have consisted mostly of multi-system failure, severe brain injury, and cardio-respiratory collapse unresponsive to therapy (Kyff, Puri, Rakeja, & Ireland, 1987; Lewandowski et al., 1985; Simpson, 1994; Smedira et al., 1990; Zimmerman et al., 1986). Patients who have been designated DNR were more seriously ill as determined by APACHE II scores, where most of the differences in scores could be explained by the level of consciousness, a component of the score (Campbell & Thill 1996; Dwyer, 1988; Parker, Landry, & Phillips, 1993). Increased age, severity of illness, poor prior health, known malignancy, length of hospital stay, origin of admission, and poor admission prognosis have also been correlated with the DNR decision (Bedell et al., 1986; Campbell & Thill, 1996; Cook et al., 1995; Daly et al., 1996; Faber-Langendoen & Bartels, 1992; Shelley et al., 1987; Tittle et al., 1991, 1992a, 1992b; Youngner et al., 1985). Very low-birth-weight and Apgar scores which remain very low in the neonate have been correlated with low survival rates regardless of resuscitation (Landwirth, 1993).

Twenty-six of 30 physicians, residents, and nurses interviewed for one study identified patient's age, premorbid cognitive function, likelihood of

surviving current episode, and likelihood of long-term survival as most important in determining DNR status (Cook et al., 1995). In the same study, nurses when responding to direct questioning rated hospital policy, premorbid emotional function, compliance with medical care, religious conviction, and risk of legal complications as more important than did physicians (Cook et al., 1995). Yet, in the given scenarios, their choices were not significantly different from the physicians' choices. Factors such as premorbid physical function, alcohol abuse, and socioeconomic status were implied as considerations for plan of treatment (Cook et al., 1995). The patient's age, severity of underlying illness, or suffering did not necessarily lead families to ask for DNR status (Bedell et al., 1986). In a retrospective chart review and informal interviews, age, a positive predictor of DNR status was rarely documented or mentioned as a factor in making a DNR designation (Bedell et al., 1986; Dwyer, 1988).

Decision-Making for DNR Status

A paucity of studies have investigated how the decision-making process unfolds for patients and family members who must come to terms with consenting to a DNR status. The major health care professional involved in making bioethical decisions in the CCS has been the patient's attending physician (Bedell et al., 1986; Evans & Brody, 1985; Gedney Baggs, 1993; Gedney Baggs & Schmitt, 1995; Rundell & Rundell, 1992; Yarling & McElmurry, 1983). Studies indicate that the decision should be one of

collaboration between patient, family, physician (Grant, 1993; Honan et al., 1988; Shelley et al., 1987; Stolman et al., 1990; Youngner, 1987), and nurses (Corley, Selig, & Ferguson, 1993; Karlawish, 1996; Lo, 1991; Youngner, 1987). There is minimal support for unilateral decision-making even for advanced critically ill patients (Teres, 1993). In the context of the neonate and the pediatric patient, it has been accepted as a general rule that unilateral decision-making by the physician on behalf of parents and children breaches the basic principles of pediatric practice (Landwirth, 1993).

The studies to date reveal a lack of patient and family involvement in decisions about DNR status. In one study, over 90% of physicians surveyed believed that patients should be involved in making decisions about DNR. However, only 10% of these physicians actually discussed DNR with their patients prior to an arrest (Bedell & Delbanco, 1984). As previously mentioned, if the DNR decision is based on medical futility, patient and/or family discussions can be initiated to help them achieve an understanding. The objective of this conference is not to obtain consent, since the decision of no medical benefit is based on medical expertise (Tomlinson & Brody, 1988).

Although evidence suggests that most patients wish to discuss life and death preferences, few get the opportunity to do so (Bedell et al., 1986; Campbell & Thill, 1996; Evans & Brody, 1985; Faber-Langendoen & Bartels, 1992; Lee, Swinburne, Fedulio, & Wahl, 1994; Smedira et al., 1990;

Stolman et al., 1990; Support, 1995). Although one study showed almost 60% of medical intensive care patients were admitted with normal intellectual function, DNR status was addressed with only 11% of them (Blackhall, Caobb, & Moskowitz, 1989). In another study, 76% of the patient population were mentally impaired at the time DNR status was considered; yet, only 11% had a reduced level of consciousness at the time of admission to the hospital (Bedell et al., 1986). It has been documented that DNR discussions took place with the family anywhere from 33% to 86% of cases, despite the patient's capacity to make a decision (Bedell & Delbanco, 1984; Bedell et al., 1986; Evans & Brody, 1985; Lee et al., 1994; Smedira et al., 1990; Stolman et al., 1990; Support, 1995; Tomlinson & Brody, 1988).

The literature indicates that changes in practice concerning the principles of autonomy and disclosure are gaining increasing support (CHA et al., 1995; Sanchez-Sweatman & Carlin, 1997). Where patient and family involvement used to be perceived at 14% in the late 70's (Youngner et al., 1985), it has increased to over 50% by the early 90's (Gedney Baggs & Schmitt, 1995). Even when decisions are based on the best evidence available, health care providers' own ethical, social, moral, and religious values influence their medical decision-making (Bone et al., 1990; Cook et al., 1995; Sherman & Branum, 1995; Solomon et al., 1993).

The meaning of DNR develops over time for nurses within their individual practices as it changes depending on circumstances peculiar to the patient (Jezewski et al., 1993). When aggressiveness of care was studied using DNR status as the independent variable, nurses with less experience responded more aggressively under all conditions (Shelley et al., 1987). The longer the duration since graduation, the less likely they were to offer aggressive care (Cook et al., 1995). Yet, Corley, Selig, and Ferguson (1993) identified that younger age and less nursing experience had a positive correlation to greater participation in ethical decision making. Health care professionals in smaller ICUs were also noted to be less likely to offer aggressive care (Cook et al., 1995). It was also found that geographic locale, be it city or province, and team direction could have as great an impact on health care professional alternatives (Cook et al., 1995).

In the process of decision-making, the values that providers bring to the situation may differ by profession and should be considered (Gedney Baggs & Schmitt, 1995; Solomon et al., 1993). Nurses tend to emphasize personal relationships and look at the specifics of the situation (Anspach, 1992; Gedney Baggs, 1993), while physicians, who spend less time with the patient, extract physical findings and interpret data from monitors and laboratories (Anspach, 1992). Nurses' and physicians' different perspectives result in varying levels of assessment leaving each profession with partial and selective views of reality (Anspach, 1992). Nurses are often the ones

who recognize the cues given by the patient and/or family indicating their readiness to consider a DNR designation (Jezewski et al., 1993). A large majority of nurses agree that they assume some responsibility for alerting the physicians to the patients' and families' wishes regarding DNR status (Aasch, 1996; Honan et al., 1988; Jezewski et al., 1993; Stolman et al., 1990). Apparently, nurses do not feel comfortable in initiating DNR discussion with patients (Honan et al., 1988).

Since nurses have such intimate contact with patients and are most likely involved in the initiation of a resuscitative attempt, they should be involved in decisions regarding patients' treatment. However, nurses often are not included in the decision-making process (Corley et al., 1993; Davis, 1979; Stolman et al., 1990; Yarling & McElmurry, 1983).

Holly (1989) reported that 74% of critical care nurses interviewed identified patients, nurses, or families as having limited roles in decision making. For example, in one study 90% of nurses had asked physicians to write a DNR order, but 72% reported that a physician had refused to write such an order even when the patient wanted one (Bristow Ott & Nieswiadomy, 1991). Gedney Baggs and Schmitt (1995) reported the following nine factors found by nurses and residents to influence the DNR decision: patient request, medical diagnosis, family request, quality of life, functional status, benefit of treatment, discomfort, age, and mental status. Over 50% of physicians and nurses placed patient request, possibility of

benefit, and diagnosis as most influential in decision making for levels of aggressiveness of care. Other authors also noted reason and origin of admission, chronic health status, and work status prior to admission as important factors to consider in DNR designation (Cook et al., 1995; Simpson, 1994; Lewandowski et al., 1985; Witte, 1984; Zimmerman et al., 1986). Neonatologists consider extreme prematurity, congenital malformations, severe brain damage, futility and parental requests as influential in decisions to withhold resuscitation (Byrne, Tyebkhan, & Laing, 1995). Currently, the containment of health care costs is becoming a significant nonmedical value considered in making treatment decisions (Campbell & Field, 1991; Daly et al., 1996; Youngner, 1987).

The decision to designate a patient as a DNR status occurs late in the course of the patient's illness (Bedell et al., 1986; Support, 1995). DNR status has been reported to have been first addressed within seven days after admission to the CCS and written two days later (Bedell et al., 1986). In other studies, the DNR designation has been made from 1 to 28 days into the patients' stay in the CCS (Lewandowski et al., 1985; Simpson, 1994; Support, 1995; Tittle et al., 1992b; Zimmerman et al., 1986). On average the patient's death occurred within 48 hours after the DNR designation (Bedell et al., 1986; Slater et al., 1991; Support, 1995).

Clinical Implications of DNR Status

In the CCS, once the physician directive has been given for a DNR status, care for that patient has been documented to range from all interventions except CPR to compassionate care only (Evans & Brody, 1985; Faber-Langendoen & Bartels, 1992; Tittle et al., 1991). As noted in the rationale section it would be important to know the reason leading to the DNR decision to better understand that the DNR decision is not meant to alter any other aspect of care (Bedell et al., 1986; CHA et al., 1995; Dwyer, 1988; Teres, 1993).

The increasing incidence of patients with DNR orders in the CCS utilizing advanced life-saving technology (Daly et al., 1996; Jayes et al., 1993; Koch, Rodeffer et al., 1994; Lewandowski et al., 1985; Tittle et al., 1992a; Teres, 1993; Zimmerman et al., 1986) raises questions concerning the use of nursing and medical resources, as well as the overall cost of critical care. At a time when scarce nursing and medical resources exist, combined with an increase in life-support technology and concern for quality of life, the use of such resources for patients most likely to benefit escalates in importance. Rationing of expensive critical care interventions is an obvious and increasingly discussed mechanism for containing health costs (Campbell & Field, 1991; Daly et al., 1996; Sanchez-Sweatman & Carlin, 1997; Tomlinson & Brody, 1988; Youngner, 1987). This presents a potential

ethical dilemma for critical care nurses when patients designated DNR are cared for in the critical care unit.

Some institutions will not allow DNR patients entry to the critical care units (Critical Care Committee, 1970 in Shelley et al., 1987; Crimmins, 1993). In one study, given the option, 46% of nurses would not admit DNR patient to the CCS while 26% of the nursing population being studied were unsure (Shelley et al., 1987). Continued use of CCS bed use by patients with DNR status contributes to expanding CCS at considerable institutional cost and leads to delays in admission of potentially viable critically ill patients (Campbell & Field, 1991).

Previous research findings conflict as to whether nonresuscitative care is actually affected by DNR orders in CCS. The rationale used to arrive at a DNR decision, makes a difference to other decisions that unfortunately are clumped together in the literature and practice (Tomlinson & Brody, 1988). Some studies have suggested that the DNR decision was accompanied with additional therapeutic limits, including the withdrawal of therapy (Bedell et al., 1986; Faber-Langendoen & Bartels, 1992; Jayes et al., 1993; Jezewski et al., 1993; Koch et al., 1994; Simpson, 1994; Tittle et al., 1991; and Zimmerman et al., 1986). After the initial DNR designation, subsequent decisions were made at varying intervals, often over a period of several days. Patients who received ventilatory support had more interventions

withdrawn over a shorter period of time than patients who were not on ventilators (Faber-Langendoen & Bartels, 1992; Smedira et al., 1990).

Other studies have shown that patients classified as DNR continue to be treated aggressively after the DNR order and use more resources than non-DNR patients (Lewandowski et al., 1985; Tittle et al., 1992b; Youngner et al., 1985). While there may have been no escalation in therapy after the DNR order was made, a majority of the DNR patients had all therapy maintained until they died (Lewandowski et al., 1986; Simpson, 1994; Tittle et al., 1992a).

Youngner et al. (1985) found that all interventions were continued in at least 71% of the patients who received them prior to the DNR order. For example, 91% of ventilated patients remained on ventilators after being designated DNR. Interventions studied included the following: arterial lines, central venous pressure monitoring, frequency of vital signs, ECG monitoring, pulmonary artery catheters, intracranial pressure monitoring, capnography, inotropic agents, antibiotics and other medications, surgery, specimen collection (blood, sputum, urine), administration of blood products, hyperalimentation, hemodialysis, continuous arterio-venous hemodialysis (Faber-Langendoen & Bartels, 1992; Lee et al., 1994; Lewandowski et al., 1985; Miedema, 1993; Ryan, Byrne, Kuhn, & Tyebkhan, 1993; Savage, Cullen, Kirchkoff, & Pugh, 1985; Shelley et al., 1987; Sherman & Branum, 1995, Simpson, 1994; Tittle et al., 1992b; Zimmerman et al., 1986).

In a retrospective chart review, Faber-Langendoen and Bartels (1992) found that on average, a total of 5.4 interventions were withheld or withdrawn per patient before death. While studies are showing that the number of ICU deaths preceded by a formal DNR order are increased (Jayes et al., 1993; Koch et al, 1994), they are also indicating some form of treatment withdrawal or withholding with DNR orders. The most common decisions made with the initial DNR order were forgoing the administration of vasopressors, antiarrhythmics, or dialysis, and the performance of surgery (Faber-Langendoen & Bartels, 1992).

Although medical intervention and therapy was found to be maintained or diminished after DNR orders (Zimmerman et al., 1986), nursing care requirements of DNR patients in the CCS remained higher than for other patients (Dunaway, 1988; Gleeson & Wise, 1990; Jezewski et al., 1993; Lewandowski et al., 1985; Shelley et al., 1987; Simpson, 1994; Tittle et al., 1992a; Zimmerman et al., 1986). The literature indicates that physicians were reluctant to write DNR orders due to their belief that nurses cease to provide the same quality of care as before the order (Honan et al., 1988; Jezewski et al., 1993). Yet, when asked how they might allocate their time to the given DNR patient if one of two patients, nurses indicated that their care of the DNR patient would be affected more so than would be the case for the non-DNR patient (Sherman & Branum, 1995; Tucker, 1992).

No significant differences were found in the literature between DNR and non-DNR patients when pulmonary hygiene, turning, reorienting the patient, permitting visiting, or intervening to reduce anxiety were studied (Sherman & Branum, 1995). DNR patients were noted to receiving increased doses of narcotics and/or anxiolytics as ventilatory support was decreased (Faber-Langendoen & Bartels, 1992). Decisions to withdraw ventilatory support were late decisions and occurred after several other interventions were first forgone (Faber-Langendoen & Bartels, 1992).

The average length of ICU stay of DNR patients was noted to be almost twice that of non-DNR patients (Bedell et al., 1986; Daly et al., 1996; Jonsson, McNamee & Champion, 1988; Lewandowski et al., 1985; Tittle et al., 1992a; Zimmerman et al., 1986). Ultimately, despite aggressive treatment, hospital mortality rates appear to be extremely high for DNR patients (Lewandowski et al., 1985; Simpson, 1994; Tittle et al., 1992a; Zimmerman et al., 1986). Zimmerman et al. (1986) stated 6% of DNR patients survived to leave the hospital, while Youngner et al. (1985) found 12% of designated DNR patients discharged from hospital with less than 1% still alive three months later. Not surprisingly, it has been noted that health professionals are often more comfortable withdrawing certain life-sustaining treatments when death is less closely related to the specific treatment withdrawn (Youngner, 1987).

Conflicts with DNR Orders

Two types of conflicts occur throughout the DNR process for nurses: intrapersonal and interpersonal. Intrapersonal conflict arises from a discord between individual values, reflecting a person's inner struggle in coming to terms with a DNR decision such as premature withdrawal of care versus prolonging the suffering (Jezewski, 1994). Interpersonal conflict arises for nurses when their perceptions differ from other individuals involved in the process of DNR designation which could be between nurses and patients and/or families, and nurses and physicians (Jezewski, 1994; Jezewski et al., 1993; Slater et al., 1991; Solomon et al., 1993).

Potential intrapersonal conflicts between expected professional behavior regarding DNR status and internal, personal attitudes (Jezewski, 1994; Savage, Cullen, Kirchkoff, Pugh, & Foreman, 1987; Solomon et al., 1993) create dilemmas. For example, critical care nurses mostly focus on the recovery or return to health of their patients (Tucker, 1992). Consequently, many nurses feel that it is not appropriate for a DNR patient to occupy a critical care bed (Bristow Ott & Nieswiadomy, 1991; Campbell & Field, 1991; Edwards, 1990; Fowler, 1990; Honan et al., 1988; Slater et al., 1991; Tittle et al., 1992b). While they decide for themselves if the DNR status is appropriate (Jezewski, 1994), nurses are faced with implementing or forgoing DNR status (Dwyer, 1988; Rozovsky & Rozovsky, 1985; Tomlinson & Brody, 1988).

From a legal standpoint, a nurse must resuscitate a patient if there is no written DNR order (Dwyer, 1988; Honan et al., 1988), knowing that the outcome of CPR is so dependent on the nature and severity of the patient's underlying illness prior to the arrest (Crimmins, 1993; McIntyre, 1992; Sanchez-Sweatman & Carlin, 1997). Low survival rates with CPR have been associated with several underlying conditions, such as malignant diseases, neurologic disease, renal failure, respiratory failure, sepsis, and multiple organ failure (Bedell et al., 1986; Landry, Parker, & Phillips, 1992; Sanchez-Sweatman & Carlin, 1997;), conditions inherent to the CCS.

The incongruence between who should make the DNR decision and who actually makes the decision creates stress in all concerned (Bristow Ott & Nieswiadomy, 1991). Nurses, rarely have to make the final decision, yet, the close relationships they have with patients and families, may make them resentful of the resolution and may make them feel angry, hostile (Youngner, 1987), anxious, and frustrated (Rundell & Rundell, 1992).

Nurses are also affected by the lack of specific direction describing the care of DNR patients (Campbell & Field, 1991; Shelley et al., 1987; Tittle et al., 1992a). Again if the reason for a DNR decision is clearly indicated, direction describing the care of DNR patients (Tomlinson & Brody, 1988) may decrease potential conflicts. Decisions made to withdraw and/or withhold other treatments before instituting a DNR order may cause conflict. Forgoing treatment may precipitate a cardiac or respiratory arrest which

would encourage death yet, instituting CPR in the absence of a DNR order would interfere with it (Faber-Langendoen & Bartels, 1992). The fear of having to initiate resuscitation measures for patients who have no chance of survival but, who have not yet been designated DNR (Slater et al., 1991) presents a dilemma for nurses.

The process of withdrawal, which often accompanies a DNR status can prove to be challenging for the nurse. Gradual hypoxia, for example, induced by terminal weaning, or stepwise withdrawal of vasopressors despite hypotension may be ethically difficult for the nurse (Campbell, Hoyt, & Nelson, 1994; Faber-Langendoen & Bartels, 1992). The practice of cure intermeshed with care of the dying leads to confusion (Daly et al., 1996; Faber-Langendoen & Bartels, 1992; Koch et al., 1994). Inflicting pain and suffering through procedures which sustain the life of DNR patients is very demanding (Jezewski et al., 1993).

Intrapersonal conflict also occurs in the presence of prognostic uncertainty (Jezewski, 1994). This situation arises when nurses have had previous exposure to patients who were expected to die but survived to lead a normal life (Jezewski, 1994; Jezewski et al., 1993; Saunders & Valente, 1986). Inner conflict also arises for nurses when they see the patient just as a body or corpse (Jezewski et al., 1993) or when concerns with violating the criminal code of Canada (Rozovsky & Rozovsky, 1985, 1990) arise. The patient's rights to death with dignity should not be confused with active

euthanasia (Rundell & Rundell, 1992). Euthanasia is defined as administering medication or performing other interventions with the intention of causing a patient's death (Aasch, 1996).

Interpersonal conflicts arise when CCS staff think the patient should have a DNR order and the family refuses (Jezewski et al., 1993). Families who insist that everything be done for dying patients in the face of futility will exacerbate interpersonal conflicts for nurses (Youngner, 1987). After all, nurses express both concern for the loss of the patient's dignity and a desire to limit the discomfort of the patient with a poor prognosis (Bedell et al., 1986). Many nurses oppose use of all efforts to prolong life (Hilliard, 1983). Families' and patients' need for support and reinforcement during and after the decision may be another source of conflict for the nurse who may disagree with the resolution be it DNR or non-DNR (Jezewski et al., 1993). This struggle worsens when consensus does not exist among the physician, patient, and/or family (Honan et al., 1988), or when physicians discuss DNR in such a way to coerce or influence the patient/family towards a decision (CHA et al., 1995; Jezewski, 1994; Tomlinson & Brody, 1988).

When care providers do not collaborate and mutually come to the same decision, there is great potential for quality of care to be compromised (Gedney Baggs, 1993; Gedney Baggs & Schmitt, 1995; Solomon et al., 1993). Nurses who believe the care should be more or less aggressive may go beyond or deliver less than the care ordered (Gedney Baggs, 1993).

Another source of interpersonal conflict for nurses originates from the various interpretations over the meaning of DNR between physicians and nurses (Alspach, 1985; Slater et al., 1991; Solomon et al., 1993; Tittle et al., 1992a; Tomlinson & Brody, 1988). For example, some health care providers think that, if a patient has a DNR order, the plan of care should also include withdrawal and withholding of treatment (Jezewski, 1994), while others see DNR only as its original narrow meaning of no CPR in the event of cardiac or respiratory arrest.

Exacerbation of interpersonal misunderstandings is also created by physicians who believe writing an order not to resuscitate would result in a decrease in quality of nursing care (Hilliard, 1983; Jezewski et al., 1993; Miles, Cranford & Schultz, 1982; Shelley et al., 1987). Physicians consequently leave the nurse in a position to initiate resuscitation measures until they are called in reference to the arrest.

Several factors have been documented to exacerbate conflicts related to the DNR designation: frequent turnover of residents inexperienced with discontinuation of therapy; unique patient circumstances; differing levels of nursing expertise; questioning appropriate CCS stay; turnover of attending physician; lack of nursing, patient, and/or family involvement in decision-making; differing perspectives/values between nurses and physicians; untreated monitored physiologic abnormalities; higher care level for DNR patients and their families; and delay in physicians addressing DNR status

(Aasch, 1996; Campbell & Field, 1991; Pronger, Poulter-Friesen, Powell, Whytehead, & Wasylak, 1995; Sherman & Branum, 1995; Slater et al., 1991).

Timing of DNR discussions is a very sensitive issue. Too late in the patient's illness or too soon after being admitted to the CCS makes an already difficult discussion with patient and/or family an even more burdensome one (Jezewski, 1994).

Recent studies emphasize the need for improved specification with DNR orders. It was found that when a DNR designation was made, wide variation in the medical care was given leading to misinterpretation of the order (Evans & Brody, 1985; Sherman & Branum, 1995; Uhlmann, Cassel, & McDonald, 1984; Youngner et al., 1985) and confusion about what sort of care should be provided. This potential for confusion multiplies as the number of physicians, nurses, and other personnel responsible for patient care increases, such as the case in large teaching hospitals and in urgent care situations (Uhlmann et al., 1984). To minimize interpersonal conflicts, doctors need to specify their intent and nurses need to seek clarification regarding any ambiguities (Sherman & Branum, 1995).

Coping for Nurses in the Context of DNR Status

The increasing prevalence of CCS patients with DNR orders who receive advanced therapies may be the source of distress for the critical care nurse. Also, administering nursing care to dying patients and being present for the

actual death of patients may compound the burden for critical care nurses. The various coping mechanisms used by nurses to deal with the DNR patient have been identified in the literature as adaptation of patient care and/or shift of focus from patient to family (Jezewski, 1994; Tucker, 1992).

Avoidance and withdrawal are processes the nurses use to maintain their focus on the goal of care (Grieve, 1987 in Tucker, 1992; Harper, 1986 in Tucker, 1992) and allow them to cope with caring for the patient. Pretending, another strategy used, occurs when the nurses distance themselves by either imagining the patient has a chance of recovery or pretending the patient is already dead (Grieve, 1987 in Tucker, 1992). The nurses might also depersonalize patients into seeing them as objects to facilitate their performing quality nursing care (Tucker, 1992).

Coping strategies focusing around the patient help the nurses feel that they are doing something worthwhile for the patient (Tucker, 1992). These coping strategies include: variance between spending minimal time caring for DNR patients, requesting assignment changes, stressing the importance of being with the patient when death occurs and/or ensuring that the patient looks comfortable and presentable.

A shift of major focus from patient to family also occurs. Some nurses start focusing on the family rather than the patient and begin to do "extras" for them such as being more flexible with visitation rules, bringing in chairs, coffee, tissues, and allowing extra time for the family. Also emphasized as priorities by some nurses are educating and information giving with the

family (Tucker, 1992). As death becomes imminent, the shift from patient to family focus becomes more evident (Tucker, 1992).

Summary

In the critical care setting where the goal is to preserve vital physiological functioning, DNR status, a complex, multi-faceted clinical occurrence, may create challenges and moral distress for the critical care nurse. Although nurses are in close and frequent contact with patients and are most likely involved in the initiation of a resuscitative attempt, nurses are often not included in the DNR decision-making process. Left with vague orders, nurses are expected to deliver prescribed, quality care while disregarding their attitudes and feelings towards the DNR designation or lack of designation. The scarcity of literature regarding the critical care nurses' knowledge, attitudes, and practices within the DNR context reinforces the need to explore this complex phenomenon. The paucity of DNR literature is even more apparent for the neonatal and pediatric critical care settings.

CHAPTER THREE

Method

Design

A descriptive survey was used to gain insight into the knowledge, attitudes, and practices of critical care nurses surrounding DNR status in critical care settings (CCS).

Sample

The target population consisted of the 1996 membership list of the Alberta Association of Registered Nurses (AARN). Those nurses who met the following criteria were included in the study:

- 1) current registration with the AARN,
- 2) hold a position as a staff nurse, educator, and/or manager, and
- 3) currently practice in a critical care setting.

This represented 1340 registered nurses. All registered nurses who met the inclusion criteria were sent a survey.

Instrument

The questionnaire "Nurses' Perceptions Surrounding DNR Status in the Critical Care Setting" (Appendix B) was used to collect all data pertinent to the knowledge, attitudes, and practices of critical care nurses surrounding DNR status. The questionnaire was developed based on a review of the literature and personal clinical experience.

The questionnaire, a self-report measure, consisted of 333 items. Section I addressed nurses' knowledge of DNR status, Section II consisted of

questions targeting nurses' attitudes towards DNR status, Section III consisted of items pertaining to current practices of nurses surrounding DNR status, Section IV consisted of case studies, and Section V addressed nurses' personal and professional background as well as working environment. Content validity of the questionnaire was determined by six content experts: three critical care professionals, two medical ethicists and one questionnaire design expert. The questionnaire was pilot tested with nineteen critical care nurses in Winnipeg and Vancouver. Feedback was provided about the clarity of the questions, effectiveness of instructions, completeness of response sets, and time required to complete the questionnaire. Minor revisions to grammatical structure of items were made.

Data Collection Procedure

Respondents were accessed through the AARN registrar's office from a complete computerized mailing list of all the registered nurses currently practising in critical care settings who met the inclusion criteria of the study. A mailing service mailed the letter of introduction (Appendix A), the questionnaire "Nurses' Perceptions Surrounding DNR Status in the Critical Care Setting" (Appendix B), and a stamped, return envelope addressed to the researcher. To protect anonymity of the respondents, the AARN sent the mailing information of applicable registered nurses directly to the mailing service via computer disk. The mailing service automatically mailed a postcard reminder (Appendix C) three weeks following the initial mailing of the questionnaire.

Data Analysis

Analysis of the data involved the use of descriptive statistics. Frequency of responses (mean, median, modes, percentages), range, and standard deviations were calculated for each item of the questionnaire, "Nurses' Perceptions Surrounding DNR Status in the Critical Care Setting." Correlations were also conducted between sample characteristics and nurses' knowledge, attitudes, and practices. A cross tabulation of the data was used where appropriate, to analyze relationships between identified influencing variables.

Ethical Considerations

Ethical approval to conduct the study was obtained from the Faculty of Nursing, University of Alberta. Permission to access potential nursing respondents was obtained from the Executive Director of the Alberta Association of Registered Nurses (AARN) (Appendix D).

The nature of the study and explanation of the participant's involvement was explained via the information letter attached to the survey (Appendix A). Study participation was voluntary and assumed upon receipt of a returned questionnaire.

Anonymity of respondents was maintained throughout the study and in the aftermath in that only sample characteristics were used to differentiate the response data. No names were attached to the questionnaires.

Anonymity was protected by ensuring that only the AARN personnel and mailing service personnel involved with the mailing knew of the potential respondents' names and addresses. Reminders were mailed out by the mailing service.

Any secondary analysis that may be conducted on the data will be done only after receiving appropriate ethical approval. There were no risks anticipated for the respondents. The benefits for individual respondents were minimal if any; however, the researcher believes that this study will provide insight into the nurses' perceptions surrounding the practices of DNR orders in critical care. This information will help health care providers, such as nurses, develop specific interventions to address the potential needs within the target population.

CHAPTER FOUR

Findings

A descriptive survey was conducted to describe the perceptions of nurses regarding the practices surrounding do not resuscitate (DNR) orders in critical care settings (CCS). More specifically, the survey was to identify critical care nurses' knowledge of DNR; describe their attitudes towards DNR status; identify the perceived frequency of encountering DNR orders in critical care practice; and determine the current practices surrounding DNR status. Furthermore, the relationships among demographics, knowledge, attitudes, and practices of critical care nurses involved in DNR status were also examined.

Data analysis was conducted using the Statistical Package for the Social Sciences (SPSS) version 6.1 for Windows (1994). Descriptive statistics such as frequencies (means, medians, modes, percentages), range, and standard deviation were calculated for each item of the questionnaire, "Nurses' Perceptions Surrounding DNR Status in the Critical Care Setting." Pearson's r, Spearman's rho, or Chi-square analysis, where appropriate, were used to determine the relationship among certain variables.

Characteristics of the Respondents

The population of 1340 registered nurses employed in critical care in Alberta were surveyed through the Alberta Association of Registered Nurses

(AARN). Four hundred and five questionnaires were completed and returned, representing a response rate of 30%.

The majority of nurses ($n = 391$) participating in this study were female (96.50%), with the youngest respondent being 23 years of age and the oldest being 61 years of age. The mean age was 37.44 years ($SD = 7.19$).

Two hundred and fifty-seven (63.50%) of the respondents had an RN diploma as their highest level of education, while 33.50% ($n = 138$) had a baccalaureate degree. One hundred and forty-five respondents (35.80%) had taken an ethics course and 44% ($n = 178$) had taken a post-graduate course in critical care (Table 1).

Table 1

Respondents' Education Characteristics

Characteristic	N	%
Level of Nursing Education		
Diploma	257	63.50
Baccalaureate	130	32.00
Masters	7	1.70
Degree other than nursing	10	2.40
Ethics Course		
Yes	145	35.80
No	260	64.20
Critical Care Course		
Yes	178	44.00
No	227	56.00

Of the respondents, 41% ($n = 166$) had 15 years or more of experience in nursing, while the majority of respondents ($n = 328$; $f = 81\%$) had 5 or more years of practice in critical care. At the time of data collection, the majority of respondents ($n = 370$; $f = 91.30\%$) worked over 15 hours per week, of which 46.90% ($n = 190$) identified that they worked at least 37.5 hours per week. While 247 (61%) respondents worked overtime, the average overtime hours worked in one month was 10.83 hours ($SD = 8.88$). All 3 shifts were represented in the sample, with the majority of the respondents 63.50% ($n = 257$) working days/nights rotation. Approximately 64.70% ($n = 262$) of the respondents identified that they were working in a definitive care hospital, while 24.90% ($n = 101$) worked in a community hospital. Five respondents were unsure of their type of hospital (Table 2).

One hundred and forty-two (35.10%) nurses who responded to the questionnaire were from Calgary Regional Health and 50.10% ($n = 203$) were from the Capital Health Region. Consequently 84% ($n = 340$) of respondents worked in hospitals serving a population of over 100,000. The bed capacity within the hospitals ranged from less than 50 beds to over 1000 beds. The majority of the respondents ($n = 162$, $f = 40\%$) identified themselves as working in an institution of 501 to 1000 beds. Of the respondents, 77.30% ($n = 313$) worked in a critical care unit with 11 to ≥ 20 beds. Most nurses ($n = 372$, $f = 91.90\%$) worked in a closed unit (where admission is based on

Table 2

Respondents' Nursing Practice Characteristics

Characteristic	N	%
Years Nursing Practice		
1-2 years	3	0.70
3-4 years	12	3.00
5-9 years	107	26.40
10-14 years	117	28.90
>15 years	166	41.00
Years of Critical Care Practice		
< 1 year	3	0.70
1-2 years	33	8.10
3-4 years	37	9.10
5-9 years	130	32.10
10-14 years	103	25.40
>15 years	95	23.50
Practice Setting		
Definitive care	262	64.70
Community	101	24.90
Other	15	3.50
Nursing Position		
Staff Nurse	377	93.10
Manager	14	3.50
Educator	8	1.70
Other	6	1.40

approval of the critical care attending physician). Yet, 196 (48.30%) respondents were unable to identify which level of care was offered to their patients within their critical care unit.

Three hundred and seventy-seven (93.10%) respondents were staff nurses, while 5.40% ($n=22$) of the respondents identified themselves as educators, managers, and/or specialists. Medical/surgical intensive care and coronary care were the primary areas of practice ($n=262$, $f=64.50\%$) identified (Table 3). A minority (9.60%) of respondents had practised as a critical care nurse outside of Canada, with 64.10% having worked in the United States.

Two hundred and thirty-five (58%) nurses worked with patients 16 years of age and older. Ninety-two (22.60%) respondents worked with a patient population of neonates, infants, and children, whereas 76 (18.80%) nurses worked with all ages in their critical care unit.

Many reasons were given by respondents for choosing to work in critical care. Reasons given were as follows: patient involvement (30.90%); stimulating intense environment with a fast pace (30.60%); advanced knowledge and skill (27.20%); personal interest (11.11%); job security and availability (10.60%); increased autonomy (10.10%); opportunity for family involvement (10.10%); variety offered (6.20%); rewarding (5.70%); dislike of general wards (5.20%); respected RN's (4.20%); career goal (3.70%);

feel part of the team (3.20%); enjoy the work (2.70%); advanced technology (2.20%); able to make a difference (1.50%); physically easier (0.50%); and prestigious (0.20%).

Table 3

Respondents' Specific Unit Characteristics

Characteristic	N	%
Primary Practice Area of Critical Care		
Medical/Surgical	116	28.6
Medical	2	0.5
Neurological	7	1.7
Surgical	3	0.7
Trauma	13	3.2
Coronary	55	13.5
Coronary Surgical	14	3.2
Burn	4	1.0
Medical/Surgical/Coronary	91	22.4
Paediatric	11	2.7
Paediatric & Neonatal	9	2.2
Adult & Paediatric	2	0.5
Neonatal	69	17.0
Other	3	0.7
Critical Care Bed Capacity		
1-4	5	1.2
5-10	83	20.5
11-20	201	49.6
>20	112	27.7

When asked about their religious preference, 49.90% ($n = 202$) belonged to the Protestant faith, while 26.20% ($n = 106$) adhered to Catholicism. Thirty-one (7.60%) respondents indicated another religious preference and 66 (16.30%) nurses identified themselves as atheist or preferring not to answer. Most ($n = 306$, $f = 75.70\%$) indicated the strength of their religious beliefs as strong to very strong.

Nurses' Knowledge of Do Not Resuscitate (DNR)

Nurses' knowledge of do not resuscitate was obtained via open-ended questions asking nurses how they would define "do not resuscitate" (DNR), multiple choice questions, and Likert scale responses from the "Nurses' Perceptions Surrounding Do Not Resuscitate (DNR) Status in the Critical Care Setting Questionnaire".

Nurses' Definition of DNR

Respondents were first asked to define "do not resuscitate" (DNR). One hundred and ninety-seven respondents (48.60%) defined DNR as no cardiopulmonary resuscitation (CPR), although CPR was not further described as to what it entailed. For 133 (32.80%) respondents, DNR was defined as no pharmacological resuscitation, 94 (23.20%) mentioned no intubation or ventilation as part of their definition, and 88 (21.70%) stated that DNR meant no electrical therapy. No resuscitation in any form was used to define DNR by 114 (28.10%) respondents. Absence of heroic (aggressive) measures (14.30%), support and comfort only (11.40%), and/or

allowing the patient to die (10.10%) were also mentioned as part of the DNR definition. Other suggestions alluded to by respondents in the definition of DNR were: guidelines and/or limitations on airway management, antibiotics, blood products, chest tubes, feeding tubes, fluids, inotropes, invasive procedures, pain control, specific types of treatment, and patient/family wishes.

The majority of respondents ($n=394$) did not associate DNR with no care. The explanations used most (86.90%) for DNR not being associated with no care were that all scopes of care, basic nursing care, current care, medications for analgesia or sedation, and/or compassionate care should continue to be administered.

One hundred and fifty-eight (39%) respondents thought that others associated DNR with no care. The family were identified by respondents ($n=101$; $f=24.90\%$) as likely to associate DNR with no care, while 94 (23.20%) respondents felt that the patient was likely to identify DNR with no care. Many respondents (82%) identified that the medical doctor ($n=156$) and the nurse ($n=176$) were unlikely to associate DNR with no care.

Designation of DNR Status

The majority of respondents ($n=388$) agreed that the physician was responsible for the designation of DNR status, while 80.20% felt that the family was responsible for the DNR order, and 310 (76.50%) respondents

stated that the patient was accountable for the DNR status. One hundred and seventy-six respondents (43.50%) replied that the nurse was responsible for the DNR status, while 59 respondents offered other suggestions for who was responsible for the DNR designation, such as: ethical review committee, legal guardian, social worker, chaplain/pastoral care member, friend/significant other, respiratory therapist, paramedic, emergency medical technician, lawyer, organ procurement team member, and others involved in care.

While the majority of the respondents (84.70%) thought that a DNR order could be overruled, 25 (6.20%) respondents identified that they were unsure if a DNR order could be overruled (Table 4). Most respondents identified that the physician ($n=284$), the patient (67.90%), and the family ($n=257$) could overrule a DNR order. A minority ($n=52$; $f=12.80\%$) perceived the nurse as being able to overrule a DNR order. A few other suggestions ($n=23$; $f=5.50\%$) were identified as to who else could overrule a DNR order such as: legal guardian, ethical review committee, court order, lawyer, and clergy.

While 198 respondents (48.90%) thought that informed consent was required for a DNR designation, 141 respondents (34.80%) did not think an informed consent was required, and 45 respondents (11.10%) were unsure if an informed consent was required.

Most of the respondents (78%) identified that the physician could legally give consent for a DNR order, while 292 respondents identified that the

Table 4

Knowledge of Do Not Resuscitate (DNR)

	N	%
DNR Order Can be Overruled		
Yes	343	84.70
No	25	6.20
Unsure	25	6.20
Additional Limits to DNR		
Yes	206	50.90
No	135	33.30
Unsure	48	11.90
Resuscitate Without DNR Orders		
Yes	357	88.10
No	33	8.10
Unsure	8	2.00
Is Informed Consent Required		
Yes	198	48.90
No	141	34.80
Unsure	45	11.10

patient could legally give consent for DNR status. If the patient is incompetent, 273 (67.40%) respondents identified that the family could give DNR consent, yet 19 (4.70%) respondents thought that the family, regardless of patient competency, could give DNR consent. For 221 respondents, the legal guardian was also selected, while 104 respondents

identified the next of kin as being able to legally give consent for a DNR order. The nurse was identified by only 4 (1%) respondents as being able to give DNR consent.

The majority of respondents (n=206; f=50.90%) indicated that a DNR designation involved additional therapeutic limits. Forty-eight (11.90%) respondents were not sure if DNR involved other limits, while 7 (1.70%) respondents identified that it varied with each patient situation.

Most respondents (88.10%) agreed that legally, attempts should be made to resuscitate all patients unless there was a written DNR order. A minority of respondents (n=33) identified that attempts at resuscitation were not necessary, even in the absence of a DNR order.

Nurses' Attitudes Towards DNR Status

Almost all respondents (n=401) believed that physicians ought to be involved in ensuring that a DNR policy exists. Respondents generally felt that nurses (95.80%), ethical review boards (n=370), and administrators (78.30%) ought to be involved in ensuring that a DNR policy exists. Other suggestions (n=56) for who ought to be involved in ensuring that a DNR policy exists were representatives from the community and long term care; patient or family; pastoral care; social worker; patient advocates; respiratory therapists; and a hospital accreditation committee member.

Of the respondents, 319 (78.80%) disagreed that DNR was closely linked with euthanasia, while 16.10% agreed that DNR and euthanasia were

associated, and 4% ($n=16$) were unsure (Table 5). Most of the respondents (84.40%) disagreed that DNR involves any form of resuscitation. A majority ($n=331$) of the respondents disagreed that once a patient is designated DNR, death is inevitable; or that the condition of the patient may potentially be reversible as long as they do not arrest (70%).

Many respondents ($n=222$) felt that DNR status was well documented in patient charts. The majority of respondents (74.50%) felt that an institutional and/or unit specific DNR policy or both was necessary to facilitate nursing practice. Most respondents ($n=262$) did not believe that a DNR policy would limit flexibility in considering individual circumstances surrounding DNR decisions.

Three hundred and sixty-eight (90.90%) respondents agreed that patient input is important in the DNR decision, and 96% perceived it to be important that the family be involved in the DNR decision. The respondents were equally divided between agreeing (43.50%) and disagreeing ($n=175$), that even though requested by the patient and the family or both, DNR does not have to be ordered, while 53 respondents (13.10%) were unsure.

The majority of respondents ($n=282$) acquiesced that physicians are hesitant about writing DNR orders. Even though 51.30% of respondents did not perceive that DNR orders were not written due to the attending physician wanting to confirm a true arrest rather than an iatrogenic arrest, 144 were unsure. While 218 (53.80%) respondents did not feel that

physicians think DNR patients receive less quality of nursing care than other patients, 99 respondents were unsure, and 86 felt that physicians did think DNR patients receive a lessened quality of nursing care. Admission of DNR status patients to a critical care unit was deemed inappropriate by 263 (65%) respondents, while 41 respondents were unsure, and 100 respondents felt admission to a critical care unit was appropriate for a DNR designated patient.

Of the respondents, 219 did not think that DNR patients receiving ventilatory support had more interventions withdrawn than the DNR patients without ventilatory support. The majority of respondents (67.10%) agreed that withdrawal of ventilatory support was a late decision for DNR patients. Most respondents (n = 296) did not feel that DNR designated patients should have all therapy maintained until they die. Many (59.80%) respondents agreed that DNR orders should be followed by withdrawal of aggressive therapeutic interventions, while 124 disagreed, and 8.60% were unsure Table 5). The majority of respondents (71.60%) agreed that a DNR order should be a deterrent to initiating aggressive therapy, yet 7.20% were unsure.

While 180 (44.50%) respondents felt that the use of narcotics and anxiolitics (e.g., morphine, valium) was increased for DNR designated patients, 163 (40.30%) did not think so, and 13.80% were unsure. A majority of respondents (62.40%) felt that abnormal laboratory values found

by means of monitoring would be treated in the DNR patient, yet 87 of the respondents did not, and 15.30% were unsure.

Almost all of the respondents ($n=398$) agreed that DNR designated patients should have nursing care maintained until they die. As well, most ($n=355$; 87.60%) respondents did not agree that less care than necessary is given to DNR patients. Most respondents ($n=235$) felt that a DNR designated patient, when part of a multiple patient assignment, did not become a lower priority for nursing care. Also, 274 respondents did not feel that DNR patients require higher levels of nursing care than all other patients. The majority (52.40%) of respondents believed that nurses perceived DNR designation differently from other health care professionals, and 105 (25.90%) were unsure that nurses had a different perspective.

When there is no DNR order, most respondents (95.10%) stated they would immediately initiate CPR when the patient arrests, even when survival of the patient is unlikely (Table 5). Most of the respondents ($n=273$; 67.40%) considered that previous exposure to patients who were expected to die but survived, influenced a person's attitude towards DNR status. The majority ($n=379$) of respondents felt that timing of DNR discussions is critical. Almost half ($n=168$; 41.50%) of the respondents perceived that there was support for coping with situations involving DNR status, while 41.20% ($n=167$) did not feel there was adequate support.

Table 5

Attitudes Towards DNR Status

	Agree	Disagree	Unsure
DNR Linked with Euthanasia	16.10	78.80	4.00
DNR Status is Well Documented	54.90	40.20	4.90
DNR Policy Facilitates Nursing Practice	74.50	15.50	9.60
Admission to Critical Care is Appropriate	24.70	65.00	10.10
Withdrawal of Therapy After DNR Order	59.80	30.60	8.60
Maintain All Therapy After DNR Order	14.80	73.10	11.10
DNR Order Should Deter Initiation of Therapy	71.60	20.50	7.20
Patient Input Important in Decision	90.90	6.40	1.70
Family Input Important in Decision	96.00	1.70	2.20
Even When Requested by Patient/Family a DNR			
Order Does Not Need to be Ordered	43.50	43.20	13.10
When No DNR Order Would Immediately Initiate			
CPR Even When Survival is Unlikely	95.10	4.70	0.20

Note: Numbers represent percentage (%).

Complexity of the DNR Designation

A majority of the respondents agreed that the level of medical expertise (83.40%), the clarity of medical orders ($n=334$), the turnover of medical staff (73.80%), and the difficulty for physicians to deal with death ($n=293$) contributed to the complexity of the DNR designation. The level of nursing expertise was also (59.70%) identified as adding to the intricacy of the DNR designation. Most of the respondents (46.40%) felt that the turnover of nursing staff further contributed to the complexity of the DNR designation. Two hundred and twenty-four (55.30%) respondents disagreed that critical

care nurses would contribute to the complexity of the DNR designation due to a difficulty in dealing with death (Table 6).

Table 6

Factors Contributing to Complexity of DNR

	Agree	Disagree	Unsure
Varied Patient Situations	91.20	3.40	4.70
DNR Patient Cared for Where Major Goal is to			
Preserve Life	67.70	26.20	5.40
Clarity of Medical Orders	82.50	11.40	5.40
Differing Definitions for DNR	83.70	10.10	5.20
Poor Communication Among Health Care			
Professionals	78.50	15.00	5.70
Levels of Nursing Expertise	59.70	31.40	8.40
Difficulty for Critical Care Nurses to Deal with			
Death	36.80	55.30	7.20

Note: Numbers represent percentage (%).

Who was involved in the decision-making ($n=372$) and the different perspectives/philosophies of the disciplines involved with DNR status (89.40%) were also identified by the majority of respondents to be factors contributing to the complexity of DNR designation. The majority of respondents ($n=274$) believed that DNR patients being cared for in a critical care setting where the major goal is to preserve life would complicate the DNR designation. The majority of respondents agreed that the patient or family wishes (96.30%) and the variety of patient characteristics and circumstances ($n=369$) increased the complexity of the DNR designation.

The majority of respondents recognized that the different definitions for DNR (83.70%) and the poor communication among health care professionals (n=318) further increased the complexity of DNR designation.

Discontinuation of Therapy Following DNR Designation

Once a patient is designated DNR, many respondents **agreed** with the discontinuation of the following treatments: pulmonary artery catheters (69.90%); central venous pressure monitoring (64.70%); extracorporeal membrane oxygenation (63.80%); intracranial pressure monitoring (63.20%); intraortic balloon pump (61.20%); continuous arteriovenous hemofiltration dialysis (58.60%); surgery (59.10%); inotropic or vasopressor agents for example, dopamine and epinephrine (53.80%); diagnostic imaging(52.60%); hemodialysis (51.80%); frequency of vital signs monitoring (49.60%); specimen collection for example, blood, urine, and sputum (49.10%); blood products (48.40%); arterial lines (46.70%); and capnography (44%).

On the other hand, once a patient is designated DNR, most respondents **disagreed** with the discontinuation of the following: analgesics (93.80%); fluid therapy (80.70%); physiotherapy and occupational therapy or both (58.50%); electrocardiographic monitoring (57.10%); antibiotics (55.10%); total parenteral nutrition (50.30%); ventilatory support (42%); and transcutaneous or transvenous pacemaker (40%). There was a certain

percentage of respondents that indicated uncertainty as to the continuation or discontinuation of the treatments listed.

Patient Factors Influencing DNR Decisions

The majority of respondents **agreed** that the following patient factors did influence DNR decisions (Table 7), such as: patient requests (95.10%); patient medical diagnosis (94.80%); quality of life (94.40%); severity of illness (89.40%); benefit of treatment (88.40%); functional status (83.90%); chronic health status (78.80%); discomfort (75.60%); poor admission prognosis (73.50%); mental status (72.40%); likelihood of long term survival (70.10%); level of consciousness (61.70%); age (60%); and premorbid cognitive function (58.70%).

The majority of respondents **disagreed** that the ensuing factors could influence a DNR decisions: socioeconomic status (84.70%); length of hospital stay (70.30%); work status prior to admission (69.90%); origin of admission, for example, the OR, PARR, ED, nursing unit, (68.10%); substance abuse (59%); elective surgery (54.60%); emergency surgery (51.30%); compliance with medical care (35.50%); religious conviction (45.20%); and premorbid lifestyle (44.70%).

Family Factors Influencing DNR Decisions

Most of the respondents (80%) **agreed** that a family or legal guardian requesting DNR influenced the DNR decision and 53.30% **agreed** that religious conviction of the family also affected DNR decisions. The majority

Table 7

Patient Factors Influencing DNR Decisions

	Agree	Disagree	Unsure
Request	95.10	2.70	1.20
Medical Diagnosis	94.80	2.20	2.70
Quality of Life	94.40	3.40	2.00
Functional Status	83.90	8.60	6.40
Benefit of Treatment	88.40	4.20	6.70
Discomfort	75.60	16.00	7.40
Mental Status	72.40	17.50	9.40
Origin of Admission	15.30	68.10	15.80
Chronic Health Status	78.80	13.60	7.40
Work Status Prior to Admission	17.60	69.90	11.10
Emergency Surgery	29.20	51.30	18.80
Elective Surgery	25.40	54.60	19.30
Severity of Illness	89.40	7.90	1.00
Poor Admission Prognosis	73.50	17.30	7.40
Length of Hospital Stay	19.20	70.30	8.90
Likelihood of Long Term Survival	70.10	19.50	8.90
Premorbid Cognitive Functioning	58.70	19.50	19.80
Substance Abuse	23.50	59.00	15.60
Religious Conviction	41.00	45.20	12.30
Socioeconomic Status	7.20	84.70	6.40
Compliance with Medical Care	35.50	45.20	17.30
Level of Consciousness	61.70	25.50	10.60
Age	60.00	30.90	7.40
Premorbid Lifestyle	34.30	44.70	18.50

Note: Numbers represent percentage (%).

(82.90%) of the respondents did not perceive the family's socioeconomic status as a factor that influenced DNR decisions (Table 8).

Table 8

Family and Institutional Factors Influencing DNR Decisions

	Agree	Disagree	Unsure
Family Factors			
Family/Legal guardian request	80.00	9.90	8.60
Religious conviction	53.30	31.90	13.60
Socioeconomic status	7.10	82.90	8.90
Institutional Factors			
Length of hospital stay	19.00	70.90	8.60
Risk of legal complications	33.80	49.60	15.10
Hospital policy	43.50	24.30	19.80
Cost containment of health care dollars	70.30	18.20	9.60
Need for critical care bed	75.10	13.60	9.60

Note: Numbers represent percentage (%).

Institutional Factors Influencing DNR Decisions

The majority of respondents acknowledged that the hospital policy (43.50%) was an institutional factor influencing DNR decisions. Other institutional factors were not identified to affect DNR decisions: the need for critical care bed (75.10%), the length of hospital stay (70.90%), the cost containment of health care dollars (70.30%), and the risk of legal complications (49.60%).

Most Important Factors in a DNR Decision

When asked to distinguish the three most important factors to consider in a DNR decision, 202 respondents identified patient request, 193 respondents mentioned patient's quality of life, and 178 respondents recognised the likelihood of long term survival as being most important in DNR decisions.

A variety of important factors to consider in a DNR decision were offered by the respondents. These were best grouped by the following factors: patient, family, combination of patient and family, institution, registered nurse and physician or both. Patient factors were mentioned 943 times as most important to consider in DNR decisions; a combination of patient and family factors were referred to 91 times; family factors were alluded to 67 times. Institutional factors were mentioned 30 times, more specifically a DNR policy was cited 25 times as one of three most important factors in DNR decisions. The staff (registered nurse and physician) were indicated 24 times as being significant in DNR decisions, such as: the nurse's awareness of the patient as a human being, the nurse's understanding of "normal" death, the physician's decision, health professionals' conclusion or suggestion and the staff's interpretation of DNR.

Why Are DNR Orders Written

A majority (71.10%) of the respondents felt that DNR orders were written when it was deemed that the quality of life after CPR would be poor. Two hundred and sixty-six respondents (65.70%) believed that DNR orders

were written when the present quality of life was deemed unacceptable.

Also, 61% of respondents presumed DNR orders to be written due to medical futility. A minority of respondents ($n=23$; 5.70%) recognised that they were unsure as to why DNR orders were written (Table 9).

Table 9

Reasons for DNR Orders

	N	%
Why DNR Orders are Written		
Poor Quality of Life After CPR	288	71.10
Present Poor Quality of Life	266	65.70
Medical Futility	247	61.00
Unsure	23	5.70

Implementation of DNR Status in Practice

The majority of respondents (58.80%) affirmatively answered that their institution had a DNR policy, while 114 respondents were not sure if their institution had a DNR policy. Forty-six respondents identified that their institution did not have a DNR policy (Table 10). While the majority of respondents ($n=287$; $f=70.90\%$) observed no change with DNR orders in the last year, 24.60% ($n=100$) noted an increase in DNR designation.

Involvement in DNR Decision-Making

A large majority of respondents felt that the attending physician (99.50%), the patient (96.50%), and the family (94.60%) should be involved in decision-making for DNR status. It was believed by most

Table 10

DNR Policy and Trends

	N	%
Institution Have DNR Policy		
Yes	238	58.80
No	46	11.40
Unsure	114	28.10
Change in DNR Trends		
Large increase	1	0.20
Moderate increase	34	8.40
Small increase	65	16.00
No change	287	70.90
Small decrease	7	1.70
Moderate decrease	2	0.50

respondents that the legal guardian (86.70%), the nurse (80.70%), and the resident (56%) should be involved in decision-making for DNR status. The chaplain was identified 45.70% of the time and ethicists were recognized 41.50% of the time as professionals who should be involved in decision-making for DNR status (Table 11).

When asked who was **actually** involved in decision-making for DNR status, many respondents (98.80%) identified the physician. Three hundred and seventy-two respondents acknowledged the family, 77.50% recognised the patient, and 265 respondents noted the legal guardian to be involved in decision-making of DNR status. A minority perceived the nurse (37.30%),

the resident (34.60%), and the ethicist (9.90%) to be involved in DNR decisions.

Table 11

Involvement in Decision-Making for DNR Status

	N	%
Who Should Be Involved		
Attending physician	403	99.50
Patient	391	96.50
Family	383	94.60
Legal guardian	351	86.70
Nurse	327	80.70
Resident	227	56.00
Chaplain	185	45.70
Ethicist	168	41.50
Who is Actually Involved		
Attending Physician	400	98.80
Patient	314	77.50
Family	372	91.90
Legal guardian	265	65.40
Nurse	151	37.30
Resident	140	34.60
Chaplain	29	7.20
Ethicist	40	9.90

Timing of DNR Decisions

A wide range of responses were identified as to when DNR decisions were most likely to occur during a patient's stay. The time ranged from 2 to

7 days as to when many respondents felt that DNR decisions were most likely to occur ($n=109$; $f=26.90\%$). Other times for designating patients as DNR varied from more than 8 days (30.80%); between 1 and 2 days (8.10%); less than 24 hours (4.40%); and patient specific (20%). After the patient coded, when all possible therapy has been tried, and whenever the physician talks to the patient and/or family, were also mentioned as times that DNR decisions occurred.

The majority (52.30%) of respondents perceived that, once designated DNR, the patients' length of stay in the critical care unit was 0 to 5 days. Although 8 different time variations for the patient's length of stay in the unit were offered, 23.70% of the respondents stated that they were unsure as to the length of stay for the patients once designated DNR, and 32 respondents noted that it varied.

Involvement in DNR Situations

Most respondents ($n=210$, $f=51.90\%$) identified being regularly involved in the direct care of DNR patients, 41.70% were sometimes involved, and 5.90% were hardly ever involved in direct care. Most respondents (73.10%) stated that when they had a DNR patient, that patient was part of a multiple assignment.

The majority of the respondents ($n=225$) were never or rarely involved in DNR decisions, whereas 52 felt that they were often implicated. Although 45.40% of the respondents believed that they never or rarely had input with

DNR decision-making, 39.50% felt they sometimes provided input, and 14% considered that they often or always provided input with DNR decision-making. While, many respondents ($n = 350$) indicated they sometimes or often agreed with decisions made surrounding DNR orders, 9.40% never or rarely agreed with DNR decisions made.

Initiation of DNR Discussion

The majority of respondents (53.10%) reflected they never or rarely initiated DNR discussions with patients and family. As for introducing DNR discussions with the physician, 45.20% of the respondents believed they sometimes did, and 32.60% frequently did so. Whereas 74 respondents never or rarely informed the physician of the patient and the family's readiness to discuss DNR, the majority (80.90%) informed the physician.

Family and Patient's View of DNR Designation

Although a majority of respondents (51.40%) suggested that the family's requests sometimes conflicted with the patient's treatment plan, 124 felt that to rarely occur. Forty-two percent ($n = 169$) of respondents sometimes witnessed disagreement between the patient, family, and physician in regards to the DNR status; yet, 36% of the respondents stated that a disagreement was rarely witnessed. Whereas, 115 respondents rarely saw their view regarding the patient's DNR designation differing from the patient or family's view, 63.70% of them observed their views as sometimes or frequently being different.

Documented Medical Orders Following DNR Designation

Once a patient was designated as DNR status, the following orders were reported to be documented. The most often or always cited orders seen when a patient was designated DNR status were DNR (68.40%) and no code (51.30%). The type of order sometimes or often seen were as follows: no CPR (72.60%), do not intubate (65.90%), medications only (65.20%), comfort measures only (59.50%), do not defibrillate (58.80%), and palliative care only (55.30%). The respondent identified that the following orders were never or rarely observed: slow code (86.70%); partial code (85.70%); do not institute heroic therapy (85.40%); treat rhythm disturbances except asystole (84.40%); no code blue (79.50%); electrical code only (78.60%); do not resuscitate from spontaneous arrest (78.30%); code 1 (76.50%); do not add new therapy (76.50%); comfort measures only in case of cardiac arrest (74.90%); chemical code only (71.80%); no code but treat aggressively (68.10%); all but CPR (65.90%); withdraw life-sustaining therapy (64%); no antibiotics (63%); no blood transfusion (61.70%); treat arrhythmias only (56%); no CPR but may countershock and may use medications (53.50%); no ventilator (49.40%); no resuscitative medications (49.10%).

Factors Included in Documentation of DNR

Who ordered the DNR status was frequently reported to be documented by 80.70% of the respondents. Some of the respondents identified that the

individual(s) giving consent were sometimes ($n=115$) recorded. Also, the individual(s) involved in the decision-making were often (27.20%) or sometimes (26.70%) documented. Although most respondents (55.50%) identified that the reason why DNR is proposed is sometimes or often documented, the time frame associated with the DNR order was felt to be never or rarely substantiated ($n=246$). The pathophysiological events encompassed by the DNR order were identified as sometimes (31.40%) being included in the documentation (Table 12).

Table 12

Factors Included in DNR Documentation

	Infrequently	Sometimes	Frequently
Who Ordered the DNR Status	6.40	9.10	80.70
Individual(s) Giving Consent	27.20	28.40	40.00
Individual(s) Involved in Decision-Making	29.70	26.70	39.80
Why DNR is Proposed	25.00	26.40	44.40
Time Frame of DNR Order	18.00	16.00	60.70
Pathophysiological Events Encompassed by the DNR Order	29.40	31.40	24.90

Note: Numbers represent percentage (%).

Factors Influencing DNR Decisions

For some respondents, the following medical diagnoses were **never** observed to influence a DNR decision: low Apgar score (64.70%), low-birth-weight (63%), lethal trisomy (49.10%), pulmonary hypoplasia (46.20%), lethal birth anomalies (45.90%), overdose (43%), aspiration (39%),

gastrointestinal obstruction (38.30%), congenital heart defects (35.30%), peripheral vascular disease (34.30%), thoracic neoplasm (34.10%), hypoxic-ischemic encephalopathy (33.80%), gastrointestinal perforation (32.30%), seizures (30.90%), pulmonary edema (28.90%), gastrointestinal failure (28.40%), gastrointestinal bleeding (27.20%), intraventricular hemorrhage (26.40%), respiratory infection (25.90%), rhythm disturbance (25.90%), hematologic failure (25.70%), multiple trauma (21.50%), and metabolic failure (20.70%).

The following medical diagnoses were frequently observed to influence a DNR decision, such as: multi-system failure (75.10%), neurologic failure (60%), post-cardiac arrest (39.20%), respiratory failure (34.60%), sepsis (29.10%), multiple trauma (25.90%), chronic obstructive pulmonary disease (20.70%), and renal failure (20.50%). Most respondents reported that respiratory arrest (41%) and congestive heart failure (40%) sometimes influenced DNR decision (Table 13).

Patient Demographics Influencing DNR Decisions

While the patient's age (41%) was frequently observed to influence a DNR decision, the ensuing patient demographics were never noted to influence a DNR decision: gender (81.20%); marital status (79.80%), ethnic group (77.50%); and place of residence prior to admission (52.60%).

Table 13

Factors Frequently Influencing DNR Decisions

	N	%
Medical Diagnoses		
Multi-system failure	304	75.10
Neurologic failure	243	60.00
Post-cardiac arrest	159	39.20
Respiratory failure	140	34.60
Sepsis	118	29.10
Multiple trauma	105	25.90
Chronic Obstructive Pulmonary Disease	94	20.70
Renal Failure	83	20.50
Patient Demographic		
Age	166	41.00

Chronic Health States Influencing DNR Decisions

Many respondents **never or rarely** noted the following chronic health states to alter a DNR decision: arthritis (92.40%), mental illness (84.90%), hypertension (82.90%), angina (78.10%), diabetes (75.10%), muscular degenerative disease (62.20%), alcoholic cirrhosis (46.90%), chronic obstructive pulmonary disease (44.20%), and chronic renal failure (42.50%). On the other hand, respondents sometimes observed the chronic state associated with cerebral vascular arrest (41.70%) and neurological conditions (40.70%) to influence a DNR decision.

Initiation of Medical Therapies

Many respondents stated that the following medical therapies were **never** or **rarely** initiated for patients following DNR orders: extracorporeal membrane oxygenation (85.90%), intracranial pressure monitoring (84.70%), intraortic balloon pump (82.30%), central venous pressure monitoring (79.10%), pulmonary artery catheters (77%), transcutaneous or transvenous pacemaker (76.30%), continuous arteriovenous hemofiltration dialysis (75.60%), capnography (74.10%), hemodialysis (69.70%), ventilator support (68.40%), arterial lines (66.90%), surgery (58.50%), inotropic or vasopressor agents (57%), diagnostic imaging (52.10%), physiotherapy and occupational therapy (50.60%), total parenteral nutrition (47.10%), blood products (43.20%), vital sign monitoring (39.50%), and electrocardiographic monitoring (36%).

While analgesics (74.60%) and fluid therapy (44.50%) were **frequently** initiated following DNR orders, most respondents reported that antibiotics (40.70%) and specimen collection (37.50%) were only sometimes began subsequent to a DNR order.

Withholding of Medical Therapies

Most respondents **never** or **rarely** observed analgesics ($n=359$), fluid therapy ($n=265$), vital sign monitoring ($n=261$), or electrocardiographic monitoring ($n=226$) to be withheld once a patient was identified as a DNR

status. Specimen collection ($n = 167$) and antibiotics ($n = 165$) were sometimes observed to be withheld.

The following medical therapies were perceived to be regularly withheld after the DNR status was determined: pulmonary artery catheters (68.20%), intraortic balloon pump (67.10%), intracranial pressure monitoring (67%), extracorporeal membrane oxygenation (66.70%), continuous arteriovenous hemofiltration dialysis (64.70%), central venous pressure monitoring (60%), hemodialysis (59.30%), transcutaneous or transvenous pacemaker (57.20%), surgery (51.60%), capnography (48.90%), arterial lines (46.70%); ventilator support (44.50%); inotropic or vasopressor agents (43.50%); diagnostic imaging (41.70%); blood products (39%); physiotherapy and occupational therapy (37.30%); and total parenteral nutrition (34.30%).

Outcome of DNR Patients

The majority of respondents stated that DNR patients in their unit frequently died in the critical care setting (66.40%) or were sometimes transferred to the floor to die (40.50%). Many respondents identified that DNR patients in their unit were never or rarely discharged from hospital (71.90%) or transferred to the floor for prolonged rehabilitation (43%) (Table 14).

Table 14

Outcomes of DNR Patients from Unit

	Infrequently	Sometimes	Frequently
Death in Critical Care	1.20	30.60	66.40
Transfer to Floor to Die	25.20	40.50	32.30
Transfer to Floor for Rehabilitation	43.00	39.80	14.60
Discharge from Hospital	71.90	22.00	1.70

Note: Numbers represent percentage (%).

Respondents' Feelings Surrounding DNR Decisions

Relief was frequently (55.30%) identified by the respondents as a feeling experienced surrounding DNR decisions. The feelings which were sometimes or frequently felt surrounding DNR decisions were frustration (66.70%), contentment (62.40%), powerlessness (57%) and confusion (50.80%). While emotions infrequently experienced surrounding DNR status were guilt (79.30%), indifference (71.10%), depression (61.20%), anger (56.60%), and anxiety (51.70%).

Strategies for Nursing DNR Patients

The following strategies were identified by most of the respondents to be frequently employed to help them nurse DNR patients: do extras for the family (96.30%); ensure the patient looks comfortable (94.40%); regard the patient as dead (89.40%); avoid the family (81%); and ensure the patient does not die alone (79.80%). While requesting an assignment change (46.20%) was sometimes done to help the respondents in nursing the DNR

patient, the ensuing approaches were **never or rarely** utilized by the majority of respondents: emotional withdrawal from the patient (94.40%); change of focus from the patient to the family (94.10%); avoidance of the patient (92.60%); be with the patient when death occurs (92.30%); view the patient as an object (85.90%); ensure the patient looks presentable (74.60%); emotional withdrawal from the family (71.30%); and believe the patient will improve (63.20%).

Table 15

Strategies Frequently Used to Help in Nursing DNR Patients

	N	%
Do Extras for Family	390	96.30
Ensure Patient Looks Comfortable	382	94.40
Regard the Patient as Dead	362	89.40
Avoid the Family	328	81.00
Ensure Patient Does Not Die Alone	323	79.80

Application of DNR Status

Case One

A 35 year old woman, mother of two children (both under 10), with a 10 year history of insulin dependent diabetes mellitus, has been in the intensive care unit for 7 days. Presently she has a Glasgow coma score of 9; ventilator dependency due to ARDS; oliguric renal failure requiring dialysis; inotrope dependency; and gangrenous extremities all secondary to abdominal surgical sepsis. The patient's mother and husband do not feel the patient would want

this care or its consequences. The physician feels that all aggressive treatment is appropriate and discussing DNR is not pertinent at this time. The family remains very uncomfortable with the decision.

When asked what they would do in reference to the above-mentioned case, the majority of the respondents (n = 304) stated they would continue the plan of care as prescribed, initiate another discussion with the physician and the family (71.90%), discuss this situation with their peers (n = 254), and request that their unit supervisor get involved (54.80%). While 133 respondents would ask the physician to reconsider his decision, 31.40% would support the physician's decision. Under the circumstances presented within Case One, 40% would request that the ethics committee review the case and 24% would encourage the family to get a second opinion. Almost all respondents (n = 384; 94.80%) identified they would initiate a full code as the patient goes into ventricular fibrillation while caring for her. Under the circumstances given, a minority (n = 8) would delay in initiating a code.

The following factors were identified as making it difficult for respondents to care for the patient in Case One: going against the patient and/or family wishes (42%); existing conflicts in opinions (29.40%); patient's age (28.90%); patient's family (25.40%); patient's young children (21%); respondent's inner turmoil (14.10%); and patient's poor prognosis (11.10%). Other factors mentioned that would make it difficult to nurse this

patient were: patient's suffering; potential for recovery; futility of treatment; and patient's quality of life.

The respondents reported that what would assist them in caring for the patient in this case, would be to involve others in the case (16.80%) and to provide care for the patient (13.30%). Some respondents suggested that being a good listener, counselling with the ethical review committee, encouraging a discussion between the physician and the family, explaining the decision to the family, fulfilling the patient and/or family's wishes, involving other professionals, obtaining a DNR order, recognizing the potential for a full recovery, and/or resolving the conflict between those involved would help them.

Case Two

A 79 year old male with "end-stage" congestive heart failure and COPD, is now admitted to CCU with pulmonary edema, bronchospasm, and wheezing secondary to a myocardial infarction. After 10 days of aggressive therapy with no significant improvement, while the cardiologist wishes to withdraw treatment, the family wants "everything" done.

While many respondents ($n=164$) agreed that the physician had the right to make the decision to withdraw treatment, 34.30% did not, and 96 respondents were unsure. When asked why respondents felt it was the physician's right to make the decision to withdraw treatment, they explained that it was the physician's decision (40.70%), that the physician had the

knowledge ($n = 69$), and that it was a medical decision ($n = 45$). The respondents who indicated that the physician did not have the right to make the decision to withdraw treatment, felt that the family must agree with the treatment plan (14.80%). Other explanations for agreeing or disagreeing that the physician had the right to make that decision were: awareness of legal and ethical implications; consideration of the patient and family wishes; realization that everything had been done; and understanding of the patient status.

As the nurse looking after this patient, in Case Two some respondents felt they would talk with the family (45.40%), involve other professionals in the case (31.40%), continue to provide care (29.40%), encourage a discussion between the physician and the family (22.70%), talk with the patient (14.10%), and follow the physician's orders (12.30%). Other suggestions put forth were to allow the family more time; involve other physicians and registered nurses; involve the ethics review committee; organize a family conference; support the patient and family; and support the physician and his decision.

Changes Surrounding DNR Status

A majority of respondents ($n = 253$; $f = 62.50\%$) affirmatively felt a change was required in practice surrounding DNR status. While 62 (15.30%) respondents did not think a change was necessary, 22 were unsure. Of the 62.50% who felt that a change was required the following suggestions were

offered: clarify DNR and then apply policies (13.30%); have DNR guidelines to follow (12.60%); increase physician's activity in DNR (11.60%); improve communication among disciplines (11.10%); and discuss DNR sooner (10.60%). A few other suggestions mentioned were to better define DNR, discuss the issue more openly; discuss DNR upon admission to critical care, encourage living wills and their legislation, improve relations between physicians and nurses; individualize each case, increase health care professionals' education; involve other health care professionals in each case, involve the patient and the family in DNR decisions, provide better continuity of care, and provide public education and awareness.

CHAPTER FIVE

Discussion of Findings

The purpose of this study was to describe the perceptions of nurses regarding the practices surrounding do-not-resuscitate (DNR) orders in critical care settings. A self-administered questionnaire was distributed to 1340 critical care nurses of the Alberta Association of Registered Nurses (AARN). Information regarding nurses' knowledge, attitudes, and practices surrounding DNR status was obtained. Relationships among demographics, knowledge, attitudes, and practices of nurses involved in DNR designation were also examined. Data were analyzed using descriptive statistics such as frequencies (mean, median, mode, percentage), range, and standard deviation were calculated for each item of the questionnaire, "Nurses' Perceptions Surrounding DNR Status in the Critical Care Setting".

Respondents of the Study

A response rate of 30% was achieved for this survey, via the AARN membership. Several reasons may have accounted for this response rate. First, the questionnaire was sent at a time of significant changes in health care, specifically in critical care. The length of the questionnaire may also have contributed to deterring a response rate on an issue that presents itself frequently in critical care. As well, the AARN membership has been noted to have similar response rates for participation in surveys (J. O'Donnell, personal communication, August, 1996).

The typical respondent for this study was a middle-aged female. Age was an important variable to consider as people usually hold beliefs and values common to the era in which they were reared. The respondents represented experienced critical care nurses who primarily held a RN diploma, typical of the critical care nurse population. Only 33.50% of the respondents had earned a baccalaureate degree. It is interesting to note that while working in a potentially ethically challenging and stressful area, a minority of respondents had either an ethics course and/or a post-graduate critical care course. However, no significant relationship was found between having an ethics course and knowledge of the need of an informed consent for DNR.

The sample included nurses who worked at least 15 hours a week in large (11 to > 20 beds), closed, critical care units. The majority of the respondents were employed in the Capital Health and Calgary Health Regions. The majority of respondents identified that they worked in large (501 to 1000 beds) definitive care hospitals serving a population of over 100,000. Of interest, many respondents were unsure as to the level of care offered by their critical care unit or the type of hospital in which they worked. The primary areas of practice for the respondents were medical/surgical intensive care and coronary care.

The majority of respondents were staff nurses, indicating that exposure to direct care of DNR designated patients was very likely. Since a majority of respondents worked with a patient population aged 16 years and older, their

perceptions may be influenced by their experience with adult DNR practice issues. Respondents working with a patient population of neonates, infants, and children may have a totally different experience surrounding DNR status (Burne et al., 1995; Landwirth, 1993).

Nurses' Knowledge of Do Not Resuscitate (DNR)

Nurses' Definition of DNR

The majority of respondents used diverse definitions for DNR, while not quite half of the respondents (48.60%) defined DNR by its legal intent, that is, no cardiopulmonary resuscitation (CPR) in the event of cardiac or respiratory arrest (Campbell & Thill, 1996; Dwyer, 1988; Grant, 1993; Honan et al., 1988; Landwirth, 1993; Lewandowski et al., 1985; Lo, 1991; Rozovsky & Rozovsky, 1985, 1990; Simpson, 1994; Teres, 1993; Tittle, Moody, & Becker, 1991; Tucker, 1992; Younger, 1987). Furthermore, when no CPR was used to define DNR, CPR was not further delineated. As stated in the literature, CPR is understood to include mouth-to-mouth resuscitation, chest compression, bag-and-mask positive-pressure ventilation, intubation, and defibrillation (CHA et al., 1995). Most definitions of DNR in the literature allow for nursing and other treatment modalities to be appropriate for the individual patient (Bedell et al., 1986; CHA et al., 1995; Dwyer, 1988; Teres, 1993).

The broad range of meaning linked to DNR status, both in the literature and in practice, reflects the various and inconsistent responses given by

respondents not only in their definitions, but also in their attitudes and exposure in practice. As in the critical care literature, withdrawal and withholding of treatments became an integral part of the respondents' meaning of DNR, even though not legally part of the DNR process (Youngner, 1987). Furthermore, the rationale for a DNR order needs to be understood (CHA et al, 1995; Tomlinson & Brody, 1988) to improve decision-making and interdisciplinary collaboration with the treatment plan.

Even with the various meanings associated with DNR by the respondents, it was reassuring that the majority did not associate DNR with no care. They reported that a breadth of care should be continued. Interestingly, while the majority of respondents did not think that others would associate DNR with no care, the patient and the family were primarily identified as making such an association. Contrary to what is suggested in the literature (Honan et al., 1988; Jezewski et al., 1993), the respondents in this study indicated that the physicians were unlikely to associate DNR with a change in care. The respondents in this study also reported that nurses do not associate DNR with no care, and all scopes of care would be continued.

Designation of DNR Status

Most respondents felt that the physician, the patient, and the family were responsible for the DNR designation. Interestingly, 43.50% of the respondents thought that the nurse was also responsible for a DNR designation, similar to Yarling and McElmurry's (1983) findings.

While the majority of respondents thought that a DNR order could be overruled, 6.20% of the respondents were uncertain. As indicated in the literature, the potential of DNR orders being overruled and who could overrule such an order, needs to be included in hospital policies (Rozovsky & Rozovsky, 1990). After all, it is incumbent upon health professionals and the health care facility to develop such policies (Rozovsky & Rozovsky, 1985) to ensure administration of the best possible care. The health care professional needs to be ready at all times to justify the decision made (Rozovsky & Rozovsky, 1990).

The rationale used to arrive at a DNR decision should determine if an informed consent is or is not required. It is interesting to note that while almost half of the respondents thought that an informed consent was needed, a considerable number of respondents (34.80%) did not. Not knowing the rationale behind why a DNR order is written might explain why 11.10% of the respondents were unsure if an informed consent was required. Afterall, some authors suggest if it is a medical decision, as is the case when the situation is considered medically futile, no consent is necessary (CHA et al., 1995; Council, 1991; Crimmins, 1993; Sanchez-Sweatman & Carlin, 1997). Yet, recent arguments opposing medical futility as being solely a medical decision, include the patient and/or family in determining benefit of treatment (Tomlinson & Brody, 1990; Truog & Brett, 1992; Veatch, 1994). When it is a medical decision requiring input on

patients' values and quality of life, an informed consent for DNR designation is required by law (CHA et al., 1995; Rozovsky & Rozovsky, 1985, 1990; Sanchez-Sweatman & Carlin, 1997). However, a hospital policy may require an informed consent regardless of the rationale used to arrive at a DNR decision.

While the majority of respondents believed that a physician could give DNR consent, a majority also felt that the patient and the family (regardless of patient competency) could legally give DNR consent. Interestingly, 1% of the respondents believed that the nurse could legally give DNR consent, as stipulated by Yarling and McElmurry (1983), yet it is the physician who is actually required to write the DNR order on the patient's chart (Rozovsky & Rozovsky, 1990).

It is stipulated in the literature, that when the discussion of DNR is undertaken, DNR decisions do not involve additional therapeutic limits (Campbell & Thill, 1996; Dwyer, 1988; Grant, 1993; Honan et al., 1988; Jezewski, 1994; Jezewski et al., 1993; Landwirth, 1993; Lewandowski et al., 1985; Lo, 1991; Rozovsky & Rozovsky, 1985, 1990; Simpson, 1994; Teres, 1993; Tittle, Moody, & Becker, 1991; Tomlinson & Brody, 1988; Tucker, 1992; Youngner, 1987). However, the majority of respondents indicated that a DNR designation does involve additional therapeutic limits. This view may be reflecting what is happening in practice and what the respondents have read in the critical care literature. All similar end-of-life

decisions are often clumped together in studies of DNR practices (Tomlinson & Brody, 1988). Some authors (Annas, 1982; CHA et al., 1995; Sanchez-Sweatman & Carlin, 1997; Tomlinson & Brody, 1988) emphasized that the rationale for the DNR order must be clear, since it consequently may affect ensuing or concurrent decisions. The critical care literature dedicated to DNR orders does not make a distinction between the DNR order, the rationale leading to a DNR decision, and the withdrawal or withholding of therapeutic interventions.

Although a minority of respondents stated that even without a DNR order it wasn't necessary to attempt CPR, most respondents felt that attempts should be made, as recommended by law or by hospital policy (Rozovsky & Rozovsky, 1990), and also as suggested in the literature (CHA et al., 1995; Crimmins, 1993; Dwyer, 1988; McIntyre, 1992; Sanchez-Sweatman & Carlin, 1997). From a legal standpoint, a nurse must resuscitate a patient if there is no written DNR order (Dwyer, 1988; Honan et al., 1988). Consequently, performing CPR when there is no DNR order written protects the critical care nurse, unless the hospital policy states otherwise and provides the nurse with formal protection.

Nurses' Attitudes Towards DNR Status

Most respondents felt that physicians, nurses, and ethical review boards ought to be involved in ensuring that a DNR policy exists. The collaborative statement on resuscitative interventions (CHA, CMA, CNA, & CHAC, 1995)

further suggests, as did a few respondents, that lay individuals (e.g., patient, family), social and pastoral care workers, and other disciplines, should be involved with ensuring a DNR policy exists. Interestingly, the majority of respondents did feel that an institutional and/or unit specific DNR policy would facilitate nursing practice, as suggested in the literature (CHA et al., 1995; Honan et al., 1988; Miya, 1984), while not limiting the flexibility required to consider individual circumstances surrounding DNR decisions. The literature has demonstrated that unfortunately, health care facilities have not implemented well-developed policies (Shelley et al., 1987).

A minority of respondents agreed that DNR was closely linked with euthanasia. Furthermore, there was no relationship noted between respondents' religious preference and association of DNR with euthanasia. Are these respondents familiar with the legal definition of both DNR and euthanasia? Are these respondents expected to look after patients against their wishes, or are they nevertheless comfortable with the decisions affecting the patient's treatment plan? The broad range of meanings associated with DNR (Bedell et al., 1986; CHA et al., 1995; Crimmins, 1993; Jezewski, 1994; Jezewski et al., 1993; Teres, 1993; Youngner, 1987) may have encouraged some nurses to associate DNR with euthanasia. While stated in the literature that once the patient is designated DNR, death may be inevitable, or that the condition of the patient may be potentially reversible as long as they do not arrest (CHA et al., 1995; Faber-Langendoen

& Bartels, 1992; Youngner, 1987), contradicts the majority of respondents' impressions. In this study no significant relationship was found between medical futility being an appropriate reason for a DNR order and DNR implying that death is inevitable.

While half of the respondents agreed that DNR status was well documented in the patient charts, just as many did not think so, similar to other findings in the literature (Evans & Brody, 1985; Youngner, 1987; Youngner et al., 1985). A significant relationship ($r=-.16$; $p=.001$) was found between DNR being well documented and the clarity of medical orders contributing to the complexity of DNR designation.

Although most respondents agreed that patient and family input was important in the DNR decision, it has been suggested that the rationale utilized to arrive at a DNR decision may need to consider the patient's values and views on quality of life (CHA et al., 1995; Council, 1991; Sanchez-Sweatman & Carlin, 1997; Tomlinson & Brody, 1988). The DNR rationale used may explain why, even though requested by the patient and/or family, a DNR order does not have to be considered. No relationship was found in this study between the importance of patient input into the DNR decision and the rationale leading to DNR designation, such as poor quality of life after CPR and present quality of life. Further, no relationship was found between the present quality of life and quality of life after CPR, and the importance of family input into the DNR decision. If the rationale for DNR

was known by the respondents, this could explain the few who were unsure that even though requested, a DNR status does not have to be ordered, especially in the situation of medical futility (CHA et al., 1995; Sanchez-Sweatman & Carlin, 1997; Tomlinson & Brody, 1988). However, some authors feel that even the futility argument requires patient/family input, and that futility as a rationale for DNR should be limited (Tomlinson & Brody, 1990; Veatch, 1994).

The literature supports the majority of the respondents' view that physicians were hesitant about writing DNR orders (Bedell et al., 1986; Youngner, 1987). Most of the respondents did not perceive that a reason for DNR orders not being written was due to the attending physician wanting to confirm a true arrest rather than an iatrogenic arrest. This contradicts some of the DNR literature (Jezewski, 1994; Youngner, 1987). While some respondents felt that physicians did think DNR patients received less quality of nursing care, the majority disagreed. Honan et al., (1988) and Jezewski et al., (1993) found that physicians believed that DNR patients received a lower quality of care.

While a majority of respondents felt that admission to a critical care unit was inappropriate for DNR designated patients, 41% were unsure. While Shelley, Zahorchak, and Gambrill (1987) report that many nurses would not admit DNR patients to critical care units, certain authors strongly cautioned against generalizing DNR decisions beyond their original narrow intent (CHA

et al., 1995; Dwyer, 1988; Sanchez-Sweatman & Carlin, 1997; Teres, 1993; Tomlinson & Brody, 1988). Being informed of the rationale that led to a DNR decision is strongly recommended to better understand if other end-of-life or treatment decisions should be made. The reason that led to a DNR decision may substantiate admission to critical care.

Even though the majority of respondents did not think that DNR patients receiving ventilatory support had more interventions withdrawn than the DNR patient without ventilatory support, some studies have shown that patients who received ventilatory support had more interventions withdrawn than those who were not on ventilators (Faber-Langendoen & Bartels, 1992; Smedira et al., 1990). These studies, like many others, do not identify why DNR was written. Not demanding or expecting to be informed of the rationale that led to a DNR decision may contribute to a further misunderstanding of the DNR designation. The same would apply to the decision of withdrawing ventilatory support for DNR patients. The goal of treatment needs to be constantly evaluated. The majority of respondents agreed that withdrawal of ventilatory support was a late decision for DNR patients. Again, the rationale used to arrive at a DNR decision, would explain withdrawal of ventilatory support to be a decision independent of the DNR designation, and may not apply at the time of the DNR status.

A further misunderstanding with the legal definition of DNR was demonstrated when the majority of respondents felt that DNR designated

patients should not have all therapy maintained until they die, and also when they identified that the DNR orders should be followed by withdrawal of aggressive therapeutic interventions. The small percentage of respondents who were unsure about whether they should maintain all therapy until the DNR patient dies (11.10%) or withdraw aggressive therapeutic interventions following a DNR designation (8%) may be explained by their not knowing the rationale that led to a DNR decision. Unfortunately, without being informed of the rationale for DNR status, the majority of respondents felt that a DNR order should be a deterrent to initiating aggressive therapy. In some cases, the rationale leading to a DNR designation, as explained by CHA et al. (1995) and Tomlinson and Brody (1988), would also indirectly impact other decisions made around aggressive therapy.

Supporting what was found in the literature (Faber-Langendoen & Bartels, 1992), many respondents felt that the use of narcotics and anxiolitics was increased the DNR designated patients, while some respondents were unsure. Even though a majority of respondents felt that abnormal laboratory values found by means of monitoring would be treated in the DNR designated patient, a small percentage of respondents were unsure (15.30%), possibly due to not knowing the reason for the DNR decision. For example, when the DNR decision is arrived at based on medical expertise because of futility, treating abnormal laboratory values may no longer be required.

Almost all respondents agreed that DNR designated patients should have nursing care maintained until they die. Corroborating what was in the literature (Dunaway, 1988; Lewandowski et al., 1985; Shelley et al., 1987; Tittle, Moody, Becker, 1992a; Zimmerman et al., 1986), the majority of respondents did not perceive that less care than necessary was given to DNR patients. While most respondents sensed that a DNR designated patient, when part of a multiple patient assignment, did not become a lower priority for nursing care, some research findings indicated that allocation of time to the DNR patient, when one of two patients would be compromised (Sherman & Branum, 1995; Tucker, 1992). A significant relationship ($\chi^2=32.81$; $p=.000$) was found between the area of primary practice and having a DNR patient as part of a multiple assignment.

While the majority of respondents did not believe that DNR patients required higher levels of nursing care than other patients, it has been suggested that nursing care requirements of DNR patients in the critical care setting remain higher than for other patients (Dunaway, 1988; Gleeson & Wise, 1990; Jezewski et al., 1993; Lewandowski et al., 1985; Shelley et al., 1987; Simpson, 1994; Tittle et al., 1992a; Zimmerman et al., 1986). Being mostly staff nurses, the respondents in this study may not see a comprehensive picture of DNR designated patients beyond their personal exposure.

While the majority of respondents believed that nurses perceived DNR designation differently from other health care professionals, the findings in the literature seem to indicate the contrary (Alspach, 1985; Slater et al., 1991; Solomon et al., 1993; Tittle et al., 1992a; Tomlinson & Brody, 1988). Most respondents would follow what is expected of them as outlined in their code of ethics, the law, and their hospital policy.

Most respondents agreed with the literature that previous exposure to patients who were expected to die but survived, influenced a person's attitude towards DNR status (Jezewski, 1994; Jezewski et al., 1993; Saunders & Valente, 1986). The majority of respondents felt that timing of DNR discussions was critical, which lends further support to what was stipulated in the literature. Too late in the patient's illness or too soon after being admitted to the critical care setting makes an already difficult discussion with those involved, an even more trying one (Jezewski, 1994; Youngner et al., 1985).

The respondents were equally divided between sensing that adequate support was and was not available for coping with situations involving DNR status. Coping with DNR situations may therefore be facilitated with informed educators, managers, and other health care professionals.

Complexity of the DNR Designation

A clear delineation of the rationale leading to DNR designations as described in specific literature (CHA et al., 1995; Sanchez-Sweatman &

Carlin, 1997; Tomlinson & Brody, 1988) may help in decreasing what many respondents felt contributed to the complexity of the DNR designation. While the following factors were felt by the respondents to add to the complexity of DNR: the turnover of medical and nursing staff; the level of medical staff and nursing expertise; the clarity of medical orders; the poor communication among health care professionals; the difficulty for physicians of dealing with death; the varied patient characteristics and circumstances; the provision of patient care in a setting where the major goal is to preserve life; different perspectives/ philosophies of disciplines involved; the differing definitions of DNR; and the patient or family wishes, of note is that respondents felt that critical care nurses do not contribute to the complexity of the DNR designation because of a difficulty in dealing with death. However, who is involved in decision-making, was identified as a factor contributing to DNR complexity.

Respondents agreed with the discontinuation of many of the treatments suggested, such as: pulmonary artery catheters; extracorporeal membrane oxygenation; central venous pressure monitoring; intracranial pressure monitoring; intraortic balloon pump; continuous arteriovenous hemofiltration dialysis; surgery; inotropic or vasopressor agents; diagnostic imaging; haemodialyses; frequency of vital signs monitoring; specimen collection; blood products; arterial lines; and capnography. While they disagreed, without knowing the rationale behind the DNR decision, with the

discontinuation of the following: analgesics; fluid therapy; physiotherapy and/or occupational therapy; electrocardiographic monitoring; ventilatory support; and transcutaneous or transvenous pacemaker. While there was a range of 5.30% to 31.60% of respondents that indicated uncertainty for the continuation or discontinuation of treatments listed, the literature suggests (CHA et al., 1995; Sanchez-Sweatman & Carlin, 1997; Tomlinson & Brody, 1988) that the rationale used to arrive to a DNR designation may or may not apply to other monitoring or treatment decisions. Many respondents identified that each patient circumstance varied making it difficult to respond to the appropriateness of treatments.

Patient Factors Influencing DNR Decisions

As found in the literature, most respondents felt that the following patient factors influenced DNR decisions: patient requests; patient medical diagnosis; quality of life; severity of illness; benefit of treatment; functional status; chronic health status; discomfort poor admission prognosis; mental status; likelihood of long term survival; level of consciousness; age; premorbid cognitive function; and compliance with medical care (Bedell et al., 1986; Campbell & Thill, 1996; Cook et al., 1995; Daly et al., 1996; Faber-Langendoen & Bartels, 1992; Gedney Baggs & Schmitt, 1995; Shelley et al., 1987; Tittle et al., 1991, 1992a, 1992b; Youngner et al., 1985). Although the majority of respondents agreed that age did influence DNR status decisions, a few studies using retrospective chart reviews, rarely

noted age to be documented as a factor in making DNR designation (Bedell et al., 1986; Dwyer, 1988).

Contrary to what is identified in the literature, many respondents disagreed that the ensuing factors influenced DNR decisions: socioeconomic status, length of hospital stay, work status prior to admission, origin of admission, substance abuse, elective surgery, emergency surgery, religious conviction, and premorbid lifestyle (Bedell et al., 1986; Campbell & Thill, 1996; Cook et al., 1995; Daly et al., 1996; Faber-Langendoen & Bartels, 1992; Shelley et al., 1987; Tittle et al., 1991, 1992a, 1992b; Youngner et al., 1985).

Family Factors Influencing DNR Decisions

While most respondents did agree that family requests and family religious convictions, influenced the DNR decision, the patient's age and/or severity of underlying illness or suffering did not lead families to ask for DNR status (Bedell et al., 1986). The family's socioeconomic status was not perceived by the respondents to influence DNR designation. It can be emphasized that the rationale used to arrive at a DNR decision, be it medical futility, quality of life prior to or after CPR, should not be influenced by family factors. While it is important to know patient values to arrive at a DNR decision, the family has an important role to play in knowing the patient's wishes, if the patient is incompetent. The socioeconomic status of the patient or the family may play a vital role in decision-making (Cook et al.,

1995; Simpson, 1994) in countries other than Canada with different health care systems. Cost and funding of health care decisions are becoming a non medical value affecting treatment decisions (Campbell & Field, 1991; Daly et al., 1996; Youngner, 1987).

Institutional Factors Influencing DNR Decisions

Since almost all of the respondents were staff nurses, it may explain why, contrary to the literature (CHA et al., 1995; Campbell & Field, 1991; Crimmins, 1993; Sanchez-Sweatman & Carlin, 1997), most of the respondents did not perceive the shortage of critical care beds, the length of hospital stay, the cost containment of health care dollars, or the risk of legal complications to be influencing factors leading to DNR decisions. Cost of health care may also be perceived differently by the critical care nurses who have worked in the critical care environment outside of Canada, where health care funding is different (Simpson, 1994) from Canada's government-funded health care system. The majority of respondents did acknowledge hospital policy to be an institutional factor influencing DNR decisions. The importance of a comprehensive hospital policy cannot be under-estimated in facilitating nursing practice (Rozovsky & Rozovsky, 1990).

Most Important Factors in a DNR Decision

The factors identified to be most important in considering a DNR designation were identified primarily to be patient request, patient's quality of life, and the likelihood of long term survival. Yet, as stipulated in the

literature, the most influential in decision-making was patient request, possibility of benefit, and patient diagnosis (Gedney & Baggs, 1993). Patient request and quality of life issues need to be discussed with the physician, and if an unacceptable response is obtained due to the different definitions of DNR utilized or different philosophies regarding the use of DNR, the patient/family or the nurse should feel free to consult with other physicians or the ethics committee (Sanchez-Sweatman & Carlin, 1997). After all, benefit of any treatment needs to be decided by the patient/family. When the likelihood of long term survival is considered, quality of life needs to be discussed with the patient and/or family. When the rationale is one of medical futility, where futility is defined by the physician, based on medical expertise and scientific rationale, the discussion's purpose is not to achieve consent with the patient and/or family but to achieve understanding (CHA et al., 1995; Tomlinson & Brody, 1988).

Rationale for DNR Orders

The majority of respondents did acknowledge that DNR orders were written for reasons of medical futility, quality of life after CPR would be poor, and/or the present quality of life is unacceptable. With what is demonstrated by the findings of this study, education on the DNR definition and applying the rationale for DNR designation to other treatment decisions, would be paramount. For example, if the rationale for a DNR designation was a present poor quality of life, would one discontinue pulmonary artery

catheter monitoring? A discussion with the patient and/or family would need to ensue specific to the treatment.

Implementation of DNR Status in Practice

While 58.80% of the respondents knew that their institution had a DNR policy, 11.40% knew that their institution did not have a DNR policy, and 28.20% were unsure if their institution had a DNR policy. Policies serve to standardize decisions that help reduce the controversies and frustrations that may develop around DNR designations (Rozovsky & Rozovsky, 1990; Sanchez-Sweatman & Carlin, 1997; Saunders & Valente, 1986; Yarling & McElmurry, 1983). The majority of respondents knew that their institution had a DNR policy, which contradicts the findings of Honan et al. (1988), where the nurses did not know if their hospital had a DNR policy. Yet, similar to Honan et al.'s (1988) findings, some nurses did not know if their institution had a DNR policy. Since the majority of respondents earlier identified that an institutional and/or unit specific policy would facilitate nursing practice, becoming informed of their DNR policy or taking an active role in developing one, becomes crucial. As Rozovsky and Rozovsky (1990) state, a DNR policy, if followed, may serve to support professional decisions. It is suggested that the DNR policy may need to highlight the goal of treatment desired by the patient (Veatch, 1994).

Although DNR status is increasing (Daly, Thomas, & Dyer, 1996; Daly et al., 1996; Jayes et al., 1993; Jezewski et al., 1993; Jonsson et al., 1988;

Koch et al., 1994; Lewandowski et al., 1985; Scanlon & Hylton Ruston, 1996; Teres 1993; Tittle et al., 1992a, 1992b; Zimmerman et al., 1986), the majority of respondents stated there was no change in the trend of DNR designation. Could it be that the increase in trends mentioned in the literature occurred previous to this study, and in fact no changes have occurred? A significant relationship ($\chi^2=8.89$; $p=.031$) was found between no change in DNR trend being noted and the area of primary practice be it adult, neonatal, paediatric, or mixed. No change in DNR trend in the last year was found in either community or regional hospitals ($\chi^2=4.26$; $p=.039$).

Involvement in DNR Decision-Making

Corroborating findings in the literature that decision-making should be through collaboration between patient, family, physician, and nurse, most of the respondents believed that the physician, the patient, the family, the legal guardian, the nurse, and the resident should be involved in decision-making for DNR status (Bedell et al., 1986; Corley et al., 1993; Grant, 1993; Honan et al., 1988; Karlawish, 1996; Lo, 1991; Rundell & Rundell, 1992; Shelley, Zahorchak, & Gambrill, 1987; Stolman et al., 1990; Yarling & McElmurry, 1983; Youngner, 1987). It was felt that, while nurses are not included in the decision-making process (Corley et al., 1993; Davis, 1979; Stolman et al., 1990; Yarling & McElmurry, 1983), nurses would benefit from being aware of the decisions regarding patients' treatment, since nurses have such intimate contact with patients and are most likely involved in the initiation of

a resuscitative attempt (Yarling & McElmurry, 1983). Nurses are often the ones who must deal with a DNR decision while making concurrent nursing care decisions (Rozovsky & Rozovsky, 1985). If the DNR decision is based on medical futility as determined by medical expertise and scientific rationale, who is involved in the decision-making becomes irrelevant and understanding of the decision is the key. As in the literature, the respondents' indicated that it was the nurse caring for the patient, who was left to implement the outcome of a DNR decision (Campbell & Field, 1991; Shelley et al., 1987; Slater et al., 1991; Tittle et al., 1992a).

Interestingly, many respondents recognised that the physician, the family, the patient, and the legal guardian were actually involved in the decision-making. However, as stated in the literature, even if the patient or the family wish to discuss life and death preferences, few get the opportunity to do so (Bedell & Delbanco, 1984; Bedell et al., 1986; Campbell & Thill, 1996; Evans & Brody, 1985; Faber-Langendoen & Bartel, 1992; Lee et al., 1994; Smedira et al., 1990; Stolman et al., 1990; Support, 1995). Again, if the rationale leading to a DNR decision is made explicit, care givers, patients, and families may better understand the role expected of them. The literature also refers to the fact that the changes in practice concerning the principles of autonomy and disclosure are gaining increasing support (CHA et al., 1995; Sanchez-Sweatman & Carlin, 1997) and probably impact involvement of all concerned in DNR designation, providing the DNR decision is arrived at

based on patient values and perception of quality of life. With a resurgence of patient autonomy in the context of medically futile treatment, the notion of futility is limiting. Who better than the patient to define benefit/futility of treatment?

Timing of DNR Decisions

Although a wide range of responses were identified by the respondents as to when DNR decisions were most likely to occur, the most consensus for when DNR decisions were most likely to occur was within 2 to 7 days. Bedell et al., (1986) found that DNR status was reported to be first addressed within 7 days and written 2 days later. Other authors found that DNR designation was made from 1 to 28 days into the patient's stay in the critical care unit (Lewandowski et al., 1985; Simpson, 1994; Support, 1995; Tittle et al., 1992b; Zimmerman et al., 1986). That range was also noted by the respondents. Depending on the reason leading to a DNR decision, more time may be required to make that type of decision.

Again, the rationale used to arrive at a DNR decision could affect the length of stay in the critical care unit for patients once designated as DNR. This may be reflected by the respondents indicating that the patient's length of stay could be 0 to 5 days, while others indicated they were unsure as to the patient's length of stay, or indicated that it varied.

Involvement with DNR Situations

Most of the respondents identified being regularly involved in the direct care of DNR patients. When they had a DNR patient, most respondents identified these patients were often part of a multiple assignment. Again, could this be part of cost containment of health care dollars? While the majority of respondents identified they were infrequently involved in DNR decisions, the literature does stress the importance of nurses' involvement since they have close contact with patients and families, and are the ones to initiate resuscitation attempts (Corley et al., 1993; Davis, 1979; Stolman et al., 1990; Yarling & McElmurry, 1983). Similar to Yarling and McElmurry's (1983) and Holly's (1989) findings, the majority of respondents did not think they had input into decision-making for DNR decisions. After all, when not being involved means not knowing the rationale used to arrive at a DNR decision, nurses express concern over some treatment decisions that ensue (Bedell et al., 1986). Without collaboration and mutual understanding of the rationale leading to the DNR decision, it has been suggested that there is great potential for compromised quality of care (Gedney Baggs, 1993; Gedney Baggs & Schmitt, 1995; Solomon et al., 1993). Yet, while admitting they infrequently provided input, the respondents stated they frequently agreed with the decisions made. No relationship was found between the respondents' area of practice and input into decision-making. A weak correlation ($r=.09$; $p=.050$) was found between years of critical care

nursing experience and input into decision-making. This is contrary to Cook et al.'s (1995) findings that nurses with more years of experience were apt to offer less aggressive care. Yet, as seen in the various definitions of DNR used by the respondents, and the view of the nurses reported in the literature, agreement with DNR decisions would be unexpected, unless they knew the rationale used for the DNR decision.

Even more surprising, is that the majority of respondents never to rarely initiated DNR discussions with patients or family. Most respondents believed they introduced DNR discussions with the physician. One can see that a consistent DNR definition and awareness of the rationale for DNR would lend further support and credibility to the nurse in discussing DNR status with the physician and confidence in discussing it with the family. That knowledge would also lend support to nurses informing the physician of the patient's and family's readiness to discuss DNR. Patient and family readiness is paramount in discussing DNR around patient values prior to or after CPR (CHA et al., 1995; Sanchez-Sweatman & Carlin, 1997; Tomlinson & Brody, 1988).

The rationale used to arrive at a DNR decision may at times explain why the respondents perceived that the family was sometimes uncomfortable with the patient's treatment plan and why they may have witnessed disagreement between the patient, family, and physician. When the physician makes a medical futility decision based on his expertise, discussion

with the family is not done to achieve consent, but more so to achieve understanding (CHA et al., 1995; Sanchez-Sweatman & Carlin, 1997; Tomlinson & Brody, 1988). Yet, expressed in the literature is concern at overriding patient autonomy while hiding behind a futility facade (Veatch, 1994). The various interpretations of DNR and the distinct rationales for DNR may be an explanation for the respondents' view of DNR and differing associated practices.

Documented Medical Orders Following DNR Designation

As mentioned in the literature and demonstrated by this survey, DNR orders are written in various ways (Teres, 1993; Tittle et al., 1992a; Youngner, 1987). Many DNR orders need further clarification so that expected responsibilities are clearer to the critical care nurse to help guide treatment (Youngner et al., 1985). It is therefore critical that hospital policies address DNR status (Rozovsky & Rozovsky, 1990).

Factors Included in Documentation of DNR

Who ordered the DNR was identified by most respondents to be frequently documented. Contrary to what is recommended in the literature (CHA et al., 1995; Kellmer, 1986; Rozovsky & Rozovsky, 1985; Youngner, 1987), the valid time frame of the DNR order or how often the order should be reviewed; the individuals involved in the decision-making; the individuals giving DNR consent, if required; the pathophysiological events encompassed by the DNR order; were never to sometimes included in the documentation.

Interesting to note is that the rationale leading to the DNR decision, according to the respondents, sometimes or often documented, yet, as seen in practice and in the literature, confusion continued as to the expected therapies (CHA et al., 1995; Crimmins, 1993; Sanchez-Sweatman & Carlin, 1997; Tomlinson & Brody, 1988).

Factors Influencing DNR Decisions

The respondents did identify, as described in the literature (Kyff et al., 1987; Lewandowski et al., 1985; Simpson, 1994; Smedira et al., 1990; Zimmerman et al., 1986), that multi-system failure, neurologic failure, post-cardiac arrest, and renal failure were medical diagnoses which frequently influenced a DNR decision. Of interest is that while frequently observed by the respondents to influence a DNR decision, respiratory failure, sepsis, multiple trauma, and chronic obstructive pulmonary disease were not medical diagnoses documented in the literature to affect DNR decision-making. One can infer that these diagnoses bring on complications that ultimately impact the rationale leading to a DNR decision. While low-birth weight and Apgar scores which remain very low have been correlated in the literature with low survival rates (Landwirth, 1993), most respondents did not identify these factors to influence a DNR decision. The overall response rates for these factors indicates that even the respondents not affiliated with neonates in practice may have attempted to answer these questions. Thus, responses, although truthful, may be misleading. Whilst the patient's age was frequently

observed by many respondents to influence a DNR decision, patient gender, marital status, and ethnic group were never observed to influence a DNR decision. This corroborates the findings in the literature (Bedell et al., 1986; Campbell & Thill, 1996; Cook et al, 1995; Daly et al., 1996; Faber-Langendoen & Bartels, 1992; Shelley et al., 1987; Tittle et al., 1991, 1992a, 1992b; Youngner et al., 1985). The patient's place of residence prior to the admission was identified by most respondents to never influence a DNR decision. This conflicts with the literature, which states how among other factors, the origin of admission may affect DNR decision-making (Bedell et al., 1986; Cook et al., 1995; Daly et al., 1996; Simpson, 1994; Youngner et al., 1985). Of the chronic health states, cerebral vascular arrest and neurological conditions were sometimes observed to influence a DNR decision. The rationale used to arrive at a DNR decision, other than that based on medical futility, should not be influenced by any medical diagnoses, patient demographics, or chronic health states. After all, quality of life values associated with diagnosis, demographics, or chronic health states prior to and after CPR, need to be identified and decided upon by the patient and/or family.

Initiation or Withholding of Medical Therapies

When asked if certain medical therapies were observed to be initiated or withheld following DNR orders, many respondents identified them to be never or frequently initiated or withheld. The reason the DNR designation is

ordered may or may not impact other treatment decisions such as initiating, withdrawing, withholding, or discontinuing treatments (CHA et al., 1995; Sanchez-Sweatman & Carlin, 1997; Tomlinson & Brody, 1988). This variety of responses from never to frequently for initiating or withholding medical therapies is also reflected in the differing definitions of DNR offered and the various impacts of subsequent treatment implied by the respondents throughout this study. Again, respondents found variations in patient situations affected their ability to respond to these items.

Outcome of DNR Patient

While the majority of respondents identified that DNR designated patients in their unit died there or were transferred to the floor to die, many also stated that if they left the unit, it was unlikely that the DNR designated patients would be transferred for prolonged rehabilitation or would survive to discharge. This impression is supported by the literature in that, despite aggressive treatment, hospital mortality rates are extremely high (Lewandowski et al., 1985; Simpson, 1994; Tittle et al., 1992a; Youngner et al., 1985; Zimmerman et al., 1986), and for the very few that are discharged, less than 1% are still alive 3 months later (Youngner et al., 1985). While these statistics need to be emphasized, the fact that most of these studies, like most of the respondents have done, seem to clump together all DNR patients without making any differentiation in the rationale

leading to the DNR decision (Annas, 1982; CHA et al., 1995; Tomlinson & Brody, 1988).

Respondents' Feelings Surrounding DNR Decisions

As identified in the literature (Jezewski, 1994; Jezewski et al., 1993; Savage et al., 1987; Slater et al., 1991; Solomon et al., 1993; Tucker, 1992) many respondents frequently experienced relief, and occasionally felt contentment, confusion, frustration, and powerlessness. Contrary to the literature (Jezewski et al., 1993; Solomon et al., 1993), many respondents felt they infrequently experienced guilt, indifference, depression, anger, and anxiety. Could these perceptions on the part of the respondents be influenced by their potential negative affirmation if admitting to its existence? Intrapersonal conflicts which can lead to interpersonal conflicts as described by Jezewski (1994) could potentially be detected within the respondents' responses. Afterall, the respondents may hold views that may be difficult for them to act in ways that would be consistent with expected professional behaviour (Jezewski, 1994; Savage et al., 1987; Solomon et al., 1993).

Strategies for Nursing DNR Patients

The various coping mechanisms used by the respondents in coping with the DNR designated patient such as: do extras for the family, ensure the patient looks comfortable, regard the patient as dead, avoid the family, ensure the patient does not die alone, and request an assignment change,

have been documented in the literature (Jezewski, 1994; Tucker, 1992). However, contrary to Jezewski's (1994) and Tucker's (1992) findings, coping strategies such as: emotionally withdrawing from the patient and family, focusing on the family and less on the patient, avoiding the patient, being with the patient when death occurs, viewing the patient as an object, ensuring the patient looks presentable, and believing the patient will improve, were identified by the respondents as infrequently used to help them in nursing DNR designated patients.

Application of DNR Status

Case One

When asked what they would do under the circumstances mentioned in the Case One Scenario, as per the literature, the majority of respondents stated they would continue the plan of care as prescribed, initiate further discussions with the physician and the family, discuss this situation with their peers, and request that their unit supervisor get involved (Jezewski, 1994). No relationship was found between the respondent's area of primary practice and initiating further discussions, asking the supervisor to get involved, discussing with their peers, continuing to provide care as prescribed, and supporting the physician's decisions. Some respondents would ask the physician to reconsider his decision, and some would support his decision. No relationship was found between the respondent's area of primary practice and asking the physician to reconsider his decision. A

relationship ($\rho = .11$; $p = .032$) was noted when looking at years of experience in critical care and supporting the physician's decision. A minority would request that the ethics committee review the case and/or encourage the family to get a second opinion. Of interest is that pediatric and neonatal nurses were more likely than adult unit nurse to request consultation with an ethics review committee ($\chi^2 = 11.06$; $p = .004$). Pediatric and neonatal nurses were more likely to advise the family to get a second opinion than adult unit nurses ($\chi^2 = 25.57$; $p = .000$). Supporting the physician's decision may create intrapersonal and interpersonal conflicts for the nurse, consequently increasing frustration, and going against the patient and family wishes, while the nurse is left caring for the patient. The patient's mother and husband were voicing what the patient's values and desires would be, irrespective of medical expertise.

Under the circumstances mentioned in this scenario, most of the suggestions offered by the respondents of what to do, such as; requesting that the ethics committee review the case, asking the physician to reconsider his decision, initiating another discussion with the physician and the family, requesting that the unit supervisor get involved, discussing the situation with their peers, encouraging the family to get a second opinion, continuing the care plan as prescribed, are all suggestions followed that could be based on a value-dependent decision rationale. When it is a value dependent decision, the decision remains the patient/family's right (CHA et

al., 1995; Sanchez-Sweatman & Carlin, 1997; Tomlinson & Brody, 1988). Consequently, to follow the physician's directions, and not follow any of the other suggestions offered, would increase intrapersonal and interpersonal conflicts. While performing their tasks, the nurses may be very uncomfortable about the forgoing of DNR status and having to resuscitate the patient in the event of a cardio-respiratory arrest (Dwyer, 1988; Honan et al., 1988; Jezewski et al., 1993; Rozovsky & Rozovsky, 1990; Slater et al., 1991; Solomon et al., 1993; Tucker, 1992).

As per the law, unless the hospital policy expresses differently and as described in the literature (Dwyer, 1988; Honan et al., 1988; Rozovsky & Rozovsky, 1990), 94.80% of the respondents would initiate a full code if required without a DNR order. It is interesting to note that a minority would delay in initiating a code. Unless supported by the hospital policy, that action would be illegal.

Going against the patient/family wishes, the existing conflicts in opinions, the patient's age, the patient's young children, intrapersonal conflict as defined by Jezewski (1994), and the patient's poor prognosis were all factors identified by the respondents which increase the difficulty for them to care for this patient. These identified factors which increase difficulty in nursing DNR designated patients are corroborated in the literature (Dwyer, 1988; Jezewski, 1994; Jezewski et al., 1993; Rozovsky & Rozovsky, 1985; Savage et al., 1987; Slater et al., 1991; Solomon et al., 1993). A precise

definition of DNR and a clear emphasis on the rationale leading to a DNR order needs to be emphasized. This may then help in resolving the conflict identified between the physician and the family, which may in turn encourage the nurse to seek a second opinion, and continue supporting the family. Interestingly, few suggestions were offered by the respondents themselves to assist them in caring for this patient.

Case Two

In the Case Two Scenario, while many respondents (40.50%) agreed that the physician had the right to make the decision in regards to the treatment for this patient due to their medical expertise, 34.30% did not think so, and 23.70% were unsure. Reviewing the literature, this treatment decision would be within the physician's expertise (CHA et al., 1995; Sanchez-Sweatman & Carlin, 1997; Tomlinson & Brody, 1988), which supports a few of the respondents' explanations. Yet would it be? (Tomlinson & Brody, 1990; Truogg & Brett, 1992; Veatch, 1994). The respondents who did not think the physician had the right to make that decision thought that the family had to agree with the treatment plan. As indicated in some of the literature, this is not the case under the medical futility rationale leading to a DNR decision (CHA et al., 1995; Sweatman-Sanchez & Carlin, 1997; Tomlinson & Brody, 1988) but not as per other bioethic literature (Tomlinson & Brody, 1988; Truogg & Brett, 1992; Veatch, 1994). Again, understanding and education

of the patient, family members, and health professionals concerned, is paramount in dealing with an ethical issue.

Talking with the patient and the family, continuing to provide care, encouraging a discussion between the physician and the family, involving other professionals in the case, and following the physician's orders were some suggestions put forth by the respondents as what to do under the circumstances. While these suggestions are applicable, an understanding of the rationale leading to treatment decisions may clear a lot of uncertainty or misconceptions.

Limitations of the Study

Although questionnaires are useful for collecting demographic and attitudinal data, when used as a substitute for observing actual practices they are less convincing. Indeed the questions in the survey may have measured respondents' subjective post hoc perceptions or current experiences rather than its general intent towards overall practice (Waltz, Strickland, & Lenz, 1991). Additionally, recall of events may be problematic. A combination of observational and interview methods (i.e., participant observation) would be required to better investigate the research questions. Participant observation is particularly useful in situations in which the researcher needs to verify the information between the informant's reports of practices with the actual practices which occur in the setting (Field & Morse, 1995).

Furthermore, the content and format of the questionnaire and the variety of patient populations (e.g., neonatal, pediatric, and adult) addressed by the items, could possibly jeopardize the validity of the instrument. The self-selection of respondents contributes to a sampling bias, in that nurses who felt that practices surrounding DNR designation do not need to be examined, may have declined to participate in the study or they may not have taken the time to complete an extensive questionnaire.

Threats to content validity may have included too broad a focus on DNR, vague wording of items (e.g., certain concepts may not have been rigorously defined), or wording of items which may have confused the respondents. The questionnaire did obtain information on DNR practice in an anonymous manner which may have resulted in more valid data.

Recommendations for Future Research

It would be of interest to study this topic with actual chart review to allow examination of knowledge implementation and actual practices surrounding DNR status via nurses' notes, physician orders, and discharge summaries. Due to the recent changes in our health care, the phenomena of DNR practices may warrant a re-exploration of DNR practices.

An exploratory look at the patient and family perspective of the meaning and practices surrounding DNR would also be helpful to assist nurses in providing care. It would also explain if and why patients and family associate DNR with no care as reflected by the respondents. It would also be essential

to study the physicians' knowledge and practices surrounding DNR orders. A combination of observational and interview methods (i.e. participant observation) would also be a positive adjunct in investigating DNR practices.

Research to promote awareness, understanding, and prediction of outcomes would benefit all critical care professionals, patients and families alike in addressing end of life decisions. This is even more critical in terms of medical futility and values inherent to quality of life decisions.

Implications of the Findings

In practice, the term "DNR" is found to be ambiguous. The legal intent needs to be emphasized. Therefore, the distinct rationale for do not resuscitate (DNR) orders needs to be better articulated and understood. Subsequently, critical care nurses should understand the implications of DNR orders. Other than being involved in decision-making to help physician and patient/family, the nurse will be better able to make her own nursing care decisions, while continuing to provide complicated or invasive treatments as the situation may entail. To increase articulation and understanding of DNR, while minimizing frustration and confusion, the term DNR may need to be substituted by do-not-attempt-CPR (DNACPR) or other terms which could decrease ambiguity.

The implementation and knowledge of a hospital policy is crucial not only to guide treatment but to help nurses in care decisions and/or delivery. The policy could reflect the care of the patient and the treatment goals desired.

Will the treatment achieve the goal? Patient input is crucial for all decisions surrounding DNR. DNR issues are multi-disciplinary and consequently involvement in DNR policy and practices needs to be collaborative. More dialogue between the nurses and the physicians needs to be encouraged. Presently, unless determined differently in the hospital policy, physicians need to document the DNR designation. This should not be a dependent nursing function but an interdependent one.

With the current activation of personal directives (Dawe, Verhoef, & Roman-Smith, 1997) in Alberta, knowing the patient's view, when unable to inform health care professionals (due to altered level of consciousness), would facilitate the process of decision-making for both the family and the health care professionals. Documenting a comprehensive treatment plan with rationale may better achieve patient care goals than DNR orders. Instead of questioning how DNR affects patient treatments, perhaps the focus should be on questioning whether treatments will achieve the desired patient care goals. However, this in turn raises further issues regarding having hospital policies surrounding end of life decisions.

Helping nurses and other health care professionals become better informed of the outcome of CPR, would assist them in providing care to DNR patients (Crimmins, 1993; Sanchez-Sweatman & Carlin, 1997; McIntyre, 1992). Education of all health care professionals, including nurses and physicians, could be done through inservices on the unit or within the

institution; and publications in critical care journals, professional conferences, or newsletters. Understanding if DNR by nurses and physicians will created a ripple-effect towards the patient and family. This would then enable the critical care nurse to encourage patient and family involvement, be it for consenting or achieving understanding of the treatment plan. At present, physicians ultimately make and document the DNR decision, but nurses are in close and frequent contact with patients and are most likely involved in the initiation of a resuscitative attempt.

Conclusion

Critical care preserves vital physiological functioning while striving to return patients to their optimal state of health. The expanding technology in health care, especially in critical care settings, presents numerous moral dilemmas. Many decisions made surrounding patient care have bioethical dimensions. One such decision involves the “do-not-resuscitate” (DNR) designation. Once the decision is made, the nurse is left with the implications of such a decision. Critical to a DNR discussion and the application of DNR, is a clarification of the term. The legal definition of DNR, not to initiate cardiopulmonary resuscitative measures (CPR) at the time of cardiac and/or respiratory arrest, is clear in the literature but confusion was identified in practice. DNR allows for all other medical and nursing interventions. As identified throughout this study, what needs to be emphasized is the distinct rationale which leads to a DNR decision. When it

is a quality of life issue for the patient, decisions for care should be determined by the patient, and/or the family. With a better understanding of nurses' knowledge, attitudes, and practices surrounding DNR status, nurses can assume the responsibility of informing themselves of the legal definition of DNR and the rationale that may be used to arrive at a DNR decision. By becoming better informed, nurses can participate in health care policy that addresses this complex issue. Awareness of predictors of DNR designation serve to provide objective information to assist health care professionals in providing care to meet the needs of critically ill patients and their families. More dialogue between nurses and physicians is crucial to achieve patient treatment goals.

Nurse educators can disseminate information to promote consistency in defining DNR. Many of the recommendations associated with DNR in this research require multi-disciplinary collaboration. Together, nurses and all health professionals achieve more. After all, it is the patient and the family who benefit.

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APPENDIX A

Information Letter

Dear AARN Member:

My name is Jocelyne Thibault-Prevost. I am a graduate student in the Faculty of Nursing, University of Alberta. I am doing a research project to explore critical care nurses' perceptions surrounding the practices of "do not resuscitate" (DNR) status in the critical care setting. Identifying the knowledge and practices of nurses surrounding DNR status may lead to a better understanding of DNR status and consequently enhance the delivery of patient care.

Your participation in this study would involve completing the enclosed questionnaire which should take you about 45 minutes. Please return the completed questionnaire by September 20, 1996, in the stamped, addressed envelope found in this package. Do not put your name on the questionnaire or the return envelope. This study is voluntary and your consent will be implied with the return of the completed questionnaire. The responses will be safely stored in a locked filing cabinet.

The researcher has paid the AARN to mail the questionnaire but the AARN has not necessarily endorsed the study. Your name has been computer selected based on your 1996 registration where you identified yourself as a critical care nurse. Your name is unknown to the researcher.

The results will be presented in group form and your answers and the hospital in which you work will never be identified.

If you should have any questions or concerns, please contact me or my supervisor at the telephone numbers below. A copy of the completed study will be available at the AARN Library and the John W. Scott Health Sciences Library, University of Alberta.

THANK YOU FOR YOUR HELP IN MY RESEARCH.

Jocelyne Thibault-Prevost,
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APPENDIX B

Questionnaire

NURSES' PERCEPTIONS SURROUNDING DO NOT RESUSCITATE (DNR)

STATUS IN THE CRITICAL CARE SETTING QUESTIONNAIRE

Instructions for Completing the Questionnaire

Please read each question carefully. Circle the response which is most appropriate for you in your critical care setting. Choose only ONE response unless otherwise specified.

**THIS QUESTIONNAIRE CONTAINS 13 PAGES
PRINTED ON BOTH SIDES
OF THE PAGES**

NURSES' PERCEPTIONS SURROUNDING DO NOT RESUSCITATE (DNR)

STATUS IN THE CRITICAL CARE SETTING QUESTIONNAIRE

SECTION I

1. How would you define "do not resuscitate" (DNR)?

2. Do you associate DNR with no care?

Yes 1

No 2

Unsure 3

Please explain your response:

3. Do you think others associate DNR with no care?

Yes 1 {IF YES, GO TO QUESTION #4}

No 2 {IF NO, GO TO QUESTION #5}

4. Who is more likely to associate DNR with no care?	NOT AT ALL	NOT VERY LIKELY	LIKELY	VERY LIKELY
<i>Physician</i>	1	2	3	4
<i>Family</i>	1	2	3	4
<i>Nurse</i>	1	2	3	4
<i>Patient</i>	1	2	3	4
<i>Other</i>	1	2	3	4

5. Who is responsible for the designation of DNR status?
(Please circle ALL responses that apply)

Physician 1

Nurse 2

Patient 3

Family 4

Other (please specify) _____

6. Can a DNR order be overruled?

Yes 1 {IF YES, GO TO QUESTION #7}

No 2 {IF NO, GO TO QUESTION #8}

Unsure 3

7. Who can overrule a DNR order?

(Please circle ALL responses that apply)

Physician 1

Family 2

Nurse 3

Patient 4

Other (please specify) _____

8. Is informed consent required for a DNR designation?

Yes 1

No 2

Unsure 3

9. Who of the following can legally give DNR consent?

(Please circle ALL responses that apply)

Physician 1

Family (regardless of patient competency) 2

Family (only if patient is incompetent) 3

Next of kin 4

Legal guardian 5

Nurse 6

Patient 7

Other (please specify) _____

10. Does a DNR designation involve additional therapeutic limits (eg: stay of treatment, decreasing inotropes, discontinuing ventilation)?

Yes 1

No 2

Unsure 3

11. Legally, should attempts be made to resuscitate all patients unless there is a DNR order written?

Yes 1

No 2

Unsure 3

SECTION II

1. Who ought to be involved in ensuring that a DNR policy exists?
(Please circle ALL responses that apply)

Physicians 1

Nurses 2

Administration 3

Ethical Review Boards 4

Other (please specify) _____

2. Indicate whether you agree or disagree with the following statements concerning DNR status by circling the appropriate response for each item.

		STRONGLY DISAGREE	DISAGREE	UNSURE	AGREE	STRONGLY AGREE
i.	<i>DNR is closely linked with euthanasia.</i>	1	2	3	4	5
ii.	<i>DNR suggests that any form of resuscitation should be administered.</i>	1	2	3	4	5
iii.	<i>Once a patient is designated DNR death is inevitable.</i>	1	2	3	4	5
iv.	<i>DNR designation indicates that the patient has a potentially reversible condition as long as they do not arrest.</i>	1	2	3	4	5
v.	<i>DNR status is well documented in patient charts.</i>	1	2	3	4	5
vi.	<i>An institutional and/or unit specific DNR policy is necessary to facilitate nursing practice</i>	1	2	3	4	5
vii.	<i>A DNR policy limits flexibility in considering individual circumstances surrounding DNR decisions.</i>	1	2	3	4	5
viii	<i>Patient input is important in the DNR decision.</i>	1	2	3	4	5
ix.	<i>Family input is important in the DNR decision.</i>	1	2	3	4	5
x.	<i>Even though requested by patient and/or family a DNR order does not have to be ordered.</i>	1	2	3	4	5
xi.	<i>Physicians are hesitant about writing DNR orders.</i>	1	2	3	4	5

		STRONGLY DISAGREE	DISAGREE	UNSURE	AGREE	STRONGLY AGREE
xii.	<i>Physicians think DNR patients receive less quality of nursing care than other patients.</i>	1	2	3	4	5
xiii.	<i>Admission to a critical care unit is appropriate for DNR patients.</i>	1	2	3	4	5
xiv.	<i>DNR patients receiving ventilatory support have more interventions withdrawn than the DNR patients without ventilatory support.</i>	1	2	3	4	5
xv.	<i>Withdrawal of ventilatory support is a late decision for DNR patients.</i>	1	2	3	4	5
xvi.	<i>DNR patients should have all therapy maintained until they die.</i>	1	2	3	4	5
xvii.	<i>DNR patients should have nursing care maintained until they die.</i>	1	2	3	4	5
xviii.	<i>DNR orders should be followed by withdrawal of aggressive therapeutic interventions.</i>	1	2	3	4	5
xix.	<i>A DNR order should be a deterrent to initiating aggressive therapy.</i>	1	2	3	4	5
xx.	<i>Use of narcotics and/or anxiolytics (eg; morphine, valium) increases for the DNR patient.</i>	1	2	3	4	5
xxi.	<i>Less care than necessary is given to DNR patients.</i>	1	2	3	4	5
xxii.	<i>A DNR patient, when one of a multiple assignment becomes a lower priority for nursing care.</i>	1	2	3	4	5
xxiii.	<i>There is support for coping with situations involving DNR status.</i>	1	2	3	4	5
xxiv.	<i>DNR patients require higher levels of nursing care than all other patients.</i>	1	2	3	4	5
xxv.	<i>Abnormal laboratory values/disorders found by means of monitoring will not be treated in the DNR patient.</i>	1	2	3	4	5
xxvi.	<i>DNR orders are not written due to the attending physician wanting to confirm a true arrest rather than an iatrogenic arrest.</i>	1	2	3	4	5
xxvii.	<i>If there is no written DNR order, you immediately initiate CPR when the patient arrests, even when survival of the patient is unlikely.</i>	1	2	3	4	5

	STRONGLY DISAGREE	DISAGREE	UNSURE	AGREE	STRONGLY AGREE
xxviii. Previous exposure to patients who were expected to die but survived influences a person's attitude towards DNR status.	1	2	3	4	5
xxix. Nurses perceive DNR designation different from other health care professionals.	1	2	3	4	5
xxx. Timing of DNR discussions is critical.	1	2	3	4	5

3. Indicate whether you agree or disagree with the following factors contributing to the complexity of the DNR designation.

	STRONGLY DISAGREE	DISAGREE	UNSURE	AGREE	STRONGLY AGREE
i. Turnover of medical staff	1	2	3	4	5
ii. Level of medical staff expertise	1	2	3	4	5
iii. Varied patient characteristics and circumstances	1	2	3	4	5
iv. Patient care being provided in a critical care setting where the major goal is to preserve life	1	2	3	4	5
v. Levels of nursing expertise	1	2	3	4	5
vi. Turnover of nursing staff	1	2	3	4	5
vii. Who is involved in decision-making	1	2	3	4	5
viii. Perspectives/ philosophies of disciplines involved with DNR status	1	2	3	4	5
ix. Patient or family wishes	1	2	3	4	5
x. Clarity of medical orders	1	2	3	4	5
xi. Differing definitions for DNR	1	2	3	4	5
xii. Poor communication among health care professionals	1	2	3	4	5
xiii. Difficulty for physicians to deal with death	1	2	3	4	5
xiv. Difficulty for critical care nurses to deal with death	1	2	3	4	5

4. Indicate whether you agree or disagree with discontinuing any of the following, once a patient is designated DNR.

		STRONGLY DISAGREE	DISAGREE	UNSURE	AGREE	STRONGLY AGREE
i.	<i>Arterial lines</i>	1	2	3	4	5
ii	<i>Ventilatory support</i>	1	2	3	4	5
iii.	<i>Central venous pressure monitoring</i>	1	2	3	4	5
iv.	<i>Capnography</i>	1	2	3	4	5
v.	<i>Inotropic or vasopressor agents (eg; dopamine, epinephrine)</i>	1	2	3	4	5
vi.	<i>Frequency of vital signs monitoring</i>	1	2	3	4	5
vii.	<i>Electrocardiographic monitoring</i>	1	2	3	4	5
viii.	<i>Surgery</i>	1	2	3	4	5
ix.	<i>Antibiotics</i>	1	2	3	4	5
x.	<i>Pulmonary artery catheters</i>	1	2	3	4	5
xi.	<i>Intracranial pressure monitoring</i>	1	2	3	4	5
xii.	<i>Transcutaneous or transvenous pacemaker</i>	1	2	3	4	5
xiii.	<i>Specimen collection (eg; blood, urine, sputum)</i>	1	2	3	4	5
xiv.	<i>Blood products</i>	1	2	3	4	5
xv.	<i>Total parenteral nutrition</i>	1	2	3	4	5
xvi.	<i>Physiotherapy/Occupational therapy</i>	1	2	3	4	5
xvii.	<i>Hemodialysis</i>	1	2	3	4	5
xviii.	<i>Continuous arteriovenous hemofiltration dialysis (CAVH/D)</i>	1	2	3	4	5
xxiv.	<i>Extracorporeal membrane oxygenation (ECMO)</i>	1	2	3	4	5
xx.	<i>Fluid therapy</i>	1	2	3	4	5
xxi.	<i>Intraortic balloon pump (IABP)</i>	1	2	3	4	5
xxii.	<i>Analgesics</i>	1	2	3	4	5
xxiii.	<i>Diagnostic imaging (DI)</i>	1	2	3	4	5

5. Indicate whether you agree or disagree with the following factors influencing DNR decisions

		STRONGLY DISAGREE	DISAGREE	UNSURE	AGREE	STRONGLY AGREE
a)	<u>Patient Factors</u>					
i.	<i>Patient requests DNR</i>	1	2	3	4	5
ii.	<i>Patient's medical diagnosis</i>	1	2	3	4	5
iii.	<i>Quality of life</i>	1	2	3	4	5
iv.	<i>Functional status</i>	1	2	3	4	5
v.	<i>Benefit of treatment</i>	1	2	3	4	5
vi.	<i>Discomfort</i>	1	2	3	4	5
vii.	<i>Mental status</i>	1	2	3	4	5
viii.	<i>Origin of admission (from OR, PARR, ER, nursing unit, etc)</i>	1	2	3	4	5
ix.	<i>Chronic health status</i>	1	2	3	4	5
x.	<i>Work status prior to admission</i>	1	2	3	4	5
xi.	<i>Emergency surgery</i>	1	2	3	4	5
xii.	<i>Elective surgery</i>	1	2	3	4	5
xiii.	<i>Severity of illness</i>	1	2	3	4	5
xiv.	<i>Poor admission prognosis</i>	1	2	3	4	5
xv.	<i>Length of hospital stay</i>	1	2	3	4	5
xvi.	<i>Likelihood of long term survival</i>	1	2	3	4	5
xvii.	<i>Premorbid cognitive functioning</i>	1	2	3	4	5
xviii.	<i>Substance abuse</i>	1	2	3	4	5
xix.	<i>Religious conviction</i>	1	2	3	4	5
xx.	<i>Socioeconomic status</i>	1	2	3	4	5
xxi.	<i>Compliance with medical care</i>	1	2	3	4	5
xxii.	<i>Level of consciousness</i>	1	2	3	4	5
xxiii.	<i>Age</i>	1	2	3	4	5
xxiv.	<i>Premorbid lifestyle</i>	1	2	3	4	5

b) Family Factors

		STRONGLY DISAGREE	DISAGREE	UNSURE	AGREE	STRONGLY AGREE
i.	Family/legal guardian requests DNR	1	2	3	4	5
ii.	Religious Conviction	1	2	3	4	5
iii.	Socioeconomic status	1	2	3	4	5

c) Institutional Factors

i.	Length of hospital stay	1	2	3	4	5
ii.	Risk of legal complications	1	2	3	4	5
iii.	Hospital policy	1	2	3	4	5
iv.	Cost containment of health care dollars	1	2	3	4	5
v.	Need for critical care bed	1	2	3	4	5

6. Which are the three most important factors to consider in a DNR

- a. _____
- b. _____
- c. _____

7. Why are DNR orders written?

(Please circle ALL responses that apply)

- | | |
|--|---|
| <i>Medical futility.....</i> | 1 |
| <i>Quality of life after CPR would be poor.....</i> | 2 |
| <i>Present quality of life is unacceptable</i> | 3 |
| <i>Unsure.....</i> | 4 |

SECTION III

1. Does your institution have a DNR policy?

<i>Yes</i>	1
<i>No</i>	2
<i>Unsure</i>	3

2. Who should be involved in decision-making for DNR status?

	YES	NO	UNSURE
<i>Attending physician</i>	1	2	3
<i>Nurse</i>	1	2	3
<i>Resident</i>	1	2	3
<i>Chaplain</i>	1	2	3
<i>Ethicists</i>	1	2	3
<i>Patient</i>	1	2	3
<i>Family</i>	1	2	3
<i>Legal guardian</i>	1	2	3
<i>Other (please specify)</i> _____			

3. Who is actually involved in decision-making of DNR status?

	YES	NO	UNSURE
<i>Attending physician</i>	1	2	3
<i>Nurse</i>	1	2	3
<i>Resident</i>	1	2	3
<i>Chaplain</i>	1	2	3
<i>Ethicists</i>	1	2	3
<i>Patient</i>	1	2	3
<i>Family</i>	1	2	3
<i>Legal guardian</i>	1	2	3
<i>Other (please specify)</i> _____			

4. When do DNR decisions most likely occur during a patient's stay?

<i>In less than 24 hours</i>	1
<i>Between 24-47 hours</i>	2
<i>Between 2-7 days</i>	3
<i>Between 8-14 days</i>	4
<i>Between 15-30 days</i>	5
<i>Over 30 days</i>	6

Other (please specify) _____

5. The length of stay in your unit for patients after being designated as DNR is:

<i>0-5 days</i>	1
<i>6-10 days</i>	2
<i>11-30 days</i>	3
<i>> 30 days</i>	4
<i>Unsure.....</i>	5

6. How often are you involved in each of the following situations?

		NEVER	RARELY	SOME TIMES	OFTEN	ALWAYS
xi.	<i>Direct care for DNR patients</i>	1	2	3	4	5
ii.	<i>DNR decisions</i>	1	2	3	4	5
iii.	<i>Input with DNR decision-making</i>	1	2	3	4	5
iv.	<i>Initiate DNR discussions with patients and family</i>	1	2	3	4	5
v.	<i>Initiate DNR discussions with the physician</i>	1	2	3	4	5
vi.	<i>Inform the physician of patient/family's readiness to discuss DNR</i>	1	2	3	4	5
vii.	<i>A DNR patient is part of your multiple assignment</i>	1	2	3	4	5
viii.	<i>Agree with decisions made surrounding DNR or non-DNR orders</i>	1	2	3	4	5
ix.	<i>Family requests conflict with the patient's treatment plan</i>	1	2	3	4	5

		NEVER	RARELY	SOME TIMES	OFTEN	ALWAYS
x.	<i>Witness disagreement between patient/family and physician in regards to DNR status</i>	1	2	3	4	5
xi.	<i>Your view regarding the patient's DNR designation is different from the family/patient's view</i>	1	2	3	4	5

7. When a patient is designated as DNR status, how often do you see the following orders?

		NEVER	RARELY	SOME TIMES	OFTEN	ALWAYS
i.	<i>DNR (do not resuscitate)</i>	1	2	3	4	5
ii.	<i>comfort measures only</i>	1	2	3	4	5
iii.	<i>treat arrhythmias only</i>	1	2	3	4	5
iv.	<i>treat ventricular tachycardia</i>	1	2	3	4	5
v.	<i>do not intubate</i>	1	2	3	4	5
vi.	<i>no cardiopulmonary resuscitation</i>	1	2	3	4	5
vii.	<i>treat with medications only</i>	1	2	3	4	5
viii.	<i>code 1</i>	1	2	3	4	5
ix.	<i>do not resuscitate from spontaneous arrest</i>	1	2	3	4	5
x.	<i>treat rhythm disturbance except asystole</i>	1	2	3	4	5
xi.	<i>no code</i>	1	2	3	4	5
xii.	<i>no ventilator</i>	1	2	3	4	5
xiii.	<i>do not defibrillate</i>	1	2	3	4	5
xiv.	<i>no code blue</i>	1	2	3	4	5
xv.	<i>comfort measures only in case of cardiac arrest</i>	1	2	3	4	5
xvi.	<i>no resuscitative medications</i>	1	2	3	4	5
xvii.	<i>no cardiopulmonary resuscitation but may countershock and may use medications</i>	1	2	3	4	5
xviii.	<i>no code but treat aggressively</i>	1	2	3	4	5
xxiv.	<i>slow code</i>	1	2	3	4	5

	NEVER	FREQUENTLY	SOME TIMES	OFTEN	ALWAYS
✓ <i>cancel code</i>	2	3	4	5	
✓ <i>chemical code only</i>	2	3	4	5	
✓ <i>electrical code only</i>	2	3	4	5	
✓ <i>at first cardiopulmonary resuscitation</i>	2	3	4	5	
✓ <i>do not institute heroic therapy</i>	2	3	4	5	
✓ <i>do not add new therapy</i>	2	3	4	5	
✓ <i>withdraw life-sustaining therapy</i>	2	3	4	5	
✓ <i>no transfusions</i>	2	3	4	5	
✓ <i>no artificial respiration</i>	2	3	4	5	
✓ <i>Palliative care only</i>	2	3	4	5	
✓ <i>other</i> <i>please specify</i> _____					

		NEVER	RARELY	SOME TIMES	OFTEN	ALWAYS
xv.	<i>partial code</i>	1	2	3	4	5
xvi.	<i>chemical code only</i>	1	2	3	4	5
xvii.	<i>electrical code only</i>	1	2	3	4	5
xviii.	<i>all but cardiopulmonary resuscitation</i>	1	2	3	4	5
xix.	<i>do not institute heroic therapy</i>	1	2	3	4	5
xx.	<i>do not add new therapy</i>	1	2	3	4	5
xxi.	<i>withdraw life-sustaining therapy</i>	1	2	3	4	5
xxii.	<i>no transfusions</i>	1	2	3	4	5
xxiii.	<i>no antibiotics</i>	1	2	3	4	5
xxiv.	<i>Palliative care only</i>	1	2	3	4	5
xxiv.	<i>others (please specify)</i> _____					

8. Have you noticed a change in trend with DNR orders in the last year?

<i>Large increase</i>	1
<i>Moderate increase</i>	2
<i>Small increase</i>	3
<i>No change</i>	4
<i>Small decrease</i>	5
<i>Moderate decrease</i>	6
<i>Large decrease</i>	7

9. How often are the following factors included in the documentation?

	NEVER	RARELY	SOME TIMES	OFTEN	ALWAYS
i. <i>Why DNR is proposed</i>	1	2	3	4	5
ii. <i>Who ordered the DNR status</i>	1	2	3	4	5
iii. <i>Time frame of DNR order</i>	1	2	3	4	5
iv. <i>Individual(s) involved in the decision-making</i>	1	2	3	4	5
v. <i>Individual(s) giving consent</i>	1	2	3	4	5
vi. <i>Pathophysiological events encompassed by the DNR order</i>	1	2	3	4	5

10. How often have you observed the following medical diagnoses to influence a DNR decision?

	NEVER	RARELY	SOME TIMES	OFTEN	ALWAYS
i. <i>Congestive heart failure</i>	1	2	3	4	5
ii. <i>Post-cardiac arrest</i>	1	2	3	4	5
iii. <i>Respiratory failure</i>	1	2	3	4	5
iv. <i>Respiratory infection</i>	1	2	3	4	5
v. <i>Multiple trauma</i>	1	2	3	4	5
vi. <i>Gastrointestinal failure</i>	1	2	3	4	5
vii. <i>Peripheral vascular disease</i>	1	2	3	4	5

		NEVER	RARELY	SOME TIMES	OFTEN	ALWAYS
viii.	<i>Pulmonary edema</i>	1	2	3	4	5
vix.	<i>Chronic obstructive pulmonary disease</i>	1	2	3	4	5
x.	<i>Multi-system failure</i>	1	2	3	4	5
xi.	<i>Neurologic failure</i>	1	2	3	4	5
xii.	<i>Gastrointestinal bleeding</i>	1	2	3	4	5
xiii.	<i>Thoracic neoplasm</i>	1	2	3	4	5
xiv.	<i>Metabolic failure</i>	1	2	3	4	5
xv.	<i>Rhythm disturbance</i>	1	2	3	4	5
xvi.	<i>Gastrointestinal perforation</i>	1	2	3	4	5
xvii.	<i>Gastrointestinal obstruction</i>	1	2	3	4	5
xviii.	<i>Post respiratory arrest</i>	1	2	3	4	5
xix.	<i>Renal failure</i>	1	2	3	4	5
xx.	<i>Sepsis</i>	1	2	3	4	5
xxi.	<i>Seizures</i>	1	2	3	4	5
xxii.	<i>Hematologic failure</i>	1	2	3	4	5
xxiii.	<i>Aspiration</i>	1	2	3	4	5
xxiv.	<i>Overdose</i>	1	2	3	4	5
xxv.	<i>Congenital heart defects</i>	1	2	3	4	5
xxvi.	<i>Lethal birth anomalies</i>	1	2	3	4	5
xxvii.	<i>Pulmonary hypoplasia</i>	1	2	3	4	5
xxviii.	<i>Lethal trisomy</i>	1	2	3	4	5
xxix.	<i>Low-birth-weight</i>	1	2	3	4	5
xxx.	<i>Low Apgar scores</i>	1	2	3	4	5
xxxii.	<i>Hypoxic-ischemic encephalopathy</i>	1	2	3	4	5
xxxii.	<i>Intraventricular hemorrhage</i>	1	2	3	4	5

11. How often have you observed the following patient demographics to influence a DNR decision?

		NEVER	RARELY	SOME TIMES	OFTEN	ALWAYS
i.	Age	1	2	3	4	5
ii.	Gender	1	2	3	4	5
iii.	Ethnic group	1	2	3	4	5
iv.	Place of residence (eg; home, independent living)	1	2	3	4	5
v.	Marital status	1	2	3	4	5

12. How often have you observed the following chronic health states to influence DNR decisions?

		NEVER	RARELY	SOME TIMES	OFTEN	ALWAYS
i.	<i>Diabetes</i>	1	2	3	4	5
ii.	<i>Hypertension</i>	1	2	3	4	5
iii.	<i>Angina</i>	1	2	3	4	5
iv.	<i>Chronic obstructive pulmonary disease (including asthma)</i>	1	2	3	4	5
v.	<i>Cerebral vascular arrest</i>	1	2	3	4	5
vi.	<i>Chronic neurological conditions</i>	1	2	3	4	5
vii.	<i>Chronic renal failure</i>	1	2	3	4	5
viii.	<i>Alcoholic cirrhosis</i>	1	2	3	4	5
ix.	<i>Mental illness</i>	1	2	3	4	5
x.	<i>Arthritis</i>	1	2	3	4	5
xi.	<i>Muscular degenerative diseases</i>	1	2	3	4	5

13. How often are the following medical therapies initiated following DNR orders?

		NEVER	RARELY	SOME TIMES	OFTEN	ALWAYS
i.	<i>Arterial lines</i>	1	2	3	4	5
ii.	<i>Ventilatory support</i>	1	2	3	4	5
iii.	<i>Central venous pressure monitoring</i>	1	2	3	4	5

		NEVER	RARELY	SOME TIMES	OFTEN	ALWAYS
iv.	<i>Capnography</i>	1	2	3	4	5
v.	<i>Inotropic or vasopressor agents (eg; dopamine, epinephrine)</i>	1	2	3	4	5
vi.	<i>Vital signs monitoring</i>	1	2	3	4	5
vii.	<i>Electrocardiographic monitoring</i>	1	2	3	4	5
viii.	<i>Surgery</i>	1	2	3	4	5
ix.	<i>Antibiotic</i>	1	2	3	4	5
x.	<i>Pulmonary artery catheters</i>	1	2	3	4	5
xi.	<i>Intracranial pressure monitoring</i>	1	2	3	4	5
xii.	<i>Transcutaneous or transvenous pacemaker</i>	1	2	3	4	5
xiii.	<i>Specimen collection (eg; blood, urine, sputum)</i>	1	2	3	4	5
xiv.	<i>Blood products</i>	1	2	3	4	5
xv.	<i>Total parenteral nutrition</i>	1	2	3	4	5
xvi.	<i>Physiotherapy/Occupational therapy</i>	1	2	3	4	5
xvii.	<i>Hemodialysis</i>	1	2	3	4	5
xviii.	<i>Continuous arteriovenous hemofiltration dialysis (CAVH/D)</i>	1	2	3	4	5
xxiv.	<i>Extracorporeal membrane oxygenation (ECMO)</i>	1	2	3	4	5
xx.	<i>Fluid therapy</i>	1	2	3	4	5
xxi.	<i>Intraortic balloon pump (IABP)</i>	1	2	3	4	5
xxii.	<i>Analgesics</i>	1	2	3	4	5
xxiii.	<i>Diagnostic Imaging (DI)</i>	1	2	3	4	5

14. How often are the following medical therapies withheld following DNR orders?

		NEVER	RARELY	SOME TIMES	OFTEN	ALWAYS
i.	<i>Arterial lines</i>	1	2	3	4	5
ii.	<i>Ventilatory support</i>	1	2	3	4	5
iii.	<i>Central venous pressure monitoring</i>	1	2	3	4	5

		Never	Rarely	Some	Often	Always
iv.	<i>Capnography</i>	1	2	3	4	5
v.	<i>Inotropic or vasopressor agents (eg;</i>	1	2	3	4	5
vi.	<i>Vital signs monitoring</i>	1	2	3	4	5
vii.	<i>Electrocardiographic monitoring</i>	1	2	3	4	5
viii.	<i>Surgery</i>	1	2	3	4	5
ix.	<i>Antibiotic</i>	1	2	3	4	5
x.	<i>Pulmonary artery catheters</i>	1	2	3	4	5
xi.	<i>Intracranial pressure monitoring</i>	1	2	3	4	5
xii.	<i>Transcutaneous or transvenous pacemaker</i>	1	2	3	4	5
xiii.	<i>Specimen collection (eg; blood, urine, sputum)</i>	1	2	3	4	5
xiv.	<i>Blood products</i>	1	2	3	4	5
xv.	<i>Total parenteral nutrition</i>	1	2	3	4	5
xvi.	<i>Physiotherapy/Occupational therapy</i>	1	2	3	4	5
xvii.	<i>Hemodialysis</i>	1	2	3	4	5
xviii.	<i>Continuous arteriovenous hemofiltration dialysis (CAVH/D)</i>	1	2	3	4	5
xix.	<i>Extracorporeal membrane oxygenation (ECMO)</i>	1	2	3	4	5
xx.	<i>Fluid therapy</i>	1	2	3	4	5
xxi.	<i>Intraortic balloon pump (IABP)</i>	1	2	3	4	5
xxii.	<i>Analgesics</i>	1	2	3	4	5
xxiii.	<i>Diagnostic Imaging (DI)</i>	1	2	3	4	5

15. How often do the following outcomes occur for DNR patients in your unit?

		NEVER	RARELY	SOME TIMES	OFTEN	ALWAYS
i.	Death in critical care setting	1	2	3	4	5
ii.	Transfer to floor to die	1	2	3	4	5
iii.	Transfer to floor for prolonged rehabilitation	1	2	3	4	5
iv.	Discharge from hospital	1	2	3	4	5
v.	Other (please specify) _____					

16. How often do you experience the following feelings surrounding DNR decisions?

		NEVER	RARELY	SOME TIMES	OFTEN	ALWAYS
i.	<i>Relief</i>	1	2	3	4	5
ii.	<i>Frustration</i>	1	2	3	4	5
iii.	<i>Anger</i>	1	2	3	4	5
iv.	<i>Depression</i>	1	2	3	4	5
v.	<i>Indifference</i>	1	2	3	4	5
vi.	<i>Contentment</i>	1	2	3	4	5
vii.	<i>Anxiety</i>	1	2	3	4	5
viii.	<i>Confusion</i>	1	2	3	4	5
ix.	<i>Guilt</i>	1	2	3	4	5
x.	<i>Powerless</i>	1	2	3	4	5
xi.	Other (please specify) _____					

17. How often do you use the following strategies to help you in nursing DNR patients?

		NEVER	RARELY	SOME TIMES	OFTEN	ALWAYS
i.	<i>Avoidance of the patient</i>	1	2	3	4	5
ii.	<i>Do extras for the family (eg; bend visiting rules, chairs, coffee, information)</i>	1	2	3	4	5
iii.	<i>Request an assignment change</i>	1	2	3	4	5
iv.	<i>Believe the patient will improve</i>	1	2	3	4	5
v.	<i>Ensure the patient does not die alone</i>	1	2	3	4	5

		NEVER	RARELY	SOME TIMES	OFTEN	ALWAYS
vi.	<i>Avoidance of the family</i>	1	2	3	4	5
vii.	<i>Emotional withdrawal from the patient</i>	1	2	3	4	5
viii.	<i>Change focus from the patient to the family</i>	1	2	3	4	5
ix.	<i>Regard the patient as dead</i>	1	2	3	4	5
x.	<i>Ensure the patient looks presentable</i>	1	2	3	4	5
xi.	<i>Emotional withdrawal from the family</i>	1	2	3	4	5
xii.	<i>Be with the patient when death occurs</i>	1	2	3	4	5
xiii.	<i>View the patient as an object</i>	1	2	3	4	5
xiv.	<i>Ensure the patient looks comfortable</i>	1	2	3	4	5

SECTION IV

Case 1

Mrs S., a 35 year old woman was admitted to the ICU with abdominal surgical sepsis 7 days ago. She now requires three inotropes to maintain a systolic blood pressure of 90 mm Hg, is ventilator dependent due to severe ARDS, has a Glasgow coma score of 9, and requires dialysis for acute oliguric renal failure. Her extremities are gangrenous secondary to microemboli and high dose use of inotropes. Her past history includes controlled insulin dependent diabetes mellitus since the age of 15 years. She is married and has two children under the age of 10 years. Her in-laws and her parents visit her in ICU. Her husband and mother feel that the patient would not want this care and its subsequent consequences as they had discussed it with the patient before. The physician, on the other hand, feels that all aggressive treatment is appropriate and that this is not the time to designate the patient as DNR until further central nervous system deterioration or multi-system involvement occurs. He has informed the family of this and the family remains very uncomfortable with the decision.

Please answer questions 1 to 4 based on this case study.

1. Under these circumstances you would
 (Circle **ALL** responses that apply)

Request that the ethics committee review the case 1

Ask the physician to reconsider his decision 2

Initiate another discussion with physician and family 3

Request that your unit supervisor get involved..... 4

Discuss this situation with your peers 5

Encourage the family to get a second opinion 6

Continue care plan as prescribed 7

Support the physician's decision 8

2. While you are caring for this patient, she goes into ventricular fibrillation. You would:

Initiate a full code 1

Delay in initiating a code 2

Notify the physician of the patient's death 3

3. What are the factors, if any, which may make it difficult for you to care for Mrs. S.?

4. What would help you to care for Mrs. S.?

Case 2

Mr. T., a 79 year old male, was admitted to the CCU with pulmonary edema, bronchospasm, and wheezing subsequent to a myocardial infarction. He has a diagnosis of "end-stage" congestive heart failure and COPD. He is not a candidate for any cardiovascular surgery. Treatment is being administered with no significant improvement after 10 days of aggressive therapy. The cardiologist wishes to withdraw treatment but the family want "everything" done.

Please answer questions 5 and 6 based on this case study.

5. Does the physician have the right to make the decision to withdraw treatment?

Yes 1

No 2

Unsure 3

Why?

6. As Mr. T.'s nurse what would you do?

7. Do you feel that a change is required in practice surrounding DNR status?

If yes, what can be done? If no, why not?

SECTION V

1. What is your highest completed level of education?

<i>Diploma</i>	1		
<i>Baccalaureate</i>	2	<i>Other than nursing</i>	3
<i>Baccalaureate (post basic)</i>	4		
<i>Master's</i>	5	<i>Other than nursing</i>	6
<i>Doctorate</i>	7	<i>Other than nursing</i>	8
<i>Other (please specify)</i> _____			

2. How many years have you been practising as a registered nurse?

<i>Less than 1 year</i>	1
<i>1 year to less than 3 years</i>	2
<i>3 years to less than 5 years</i>	3
<i>5 years to less than 10 years</i>	4
<i>10 years to less than 15 years</i>	5
<i>15 years or more</i>	6

3. What current nursing position do you hold?

<i>Staff nurse</i>	1
<i>Nurse manager</i>	2
<i>Nurse educator</i>	3
<i>Clinical nurse specialist</i>	4

Other (please specify) _____

4. Have you taken a post-graduate course in critical care nursing?

<i>Yes</i>	1
<i>No</i>	2

5. Have you taken a course in ethics?

Yes 1

No 2

6. In what area do you primarily practice?

Medical/surgical intensive care (multi-system) 1

Medical intensive care 2

Neurological intensive care 3

Surgical intensive care 4

Trauma intensive care 5

Coronary care 6

Coronary surgical care 7

Obstetrical intensive care 8

Neonatal intensive care 9

Other (please specify) _____

7. The age for the patient population in your unit is:

Neonates 1

0 - 11 mos 2

1 - 15 yrs 3

16 yrs and over 4

All ages 5

All ages except neonates 6

8. The critical care bed capacity for your unit is

1 to 4 beds 1

5 to 10 beds 2

11 to 20 beds 3

21 beds or more 4

9. Your unit is considered to be what level of care?

<i>Level I</i>	1
<i>Level II</i>	2
<i>Level III</i>	3
<i>Unsure</i>	4

10. Your critical care unit is considered to be:

<i>Open</i>	1
<i>(where any physician has privileges to admit)</i>	
<i>Closed</i>	2
<i>(where admission is based on approval of the critical care attending physician)</i>	

11. Please indicate the number of hours/week you work in critical care.

<i>37.5 hours or more</i>	1
<i>15 to 37 hours</i>	2
<i>Less than 15 hours</i>	3

12. How many years have you been practising in critical care?

<i>Less than 1 year</i>	1
<i>1 year to less than 3 years</i>	2
<i>3 years to less than 5 years</i>	3
<i>5 years to less than 10 years</i>	4
<i>10 years to less than 15 years</i>	5
<i>15 years or more</i>	6

13. Have you ever practised critical care nursing outside of Canada?

<i>Yes</i>	1	<i>(Go to question #14)</i>
<i>No</i>	2	<i>(Go to question #15)</i>

14. Where did you practice as a critical care nurse outside of Canada?

15. Please indicate the rotation that best describes the shift you work most frequently.

<i>Days/Evenings/Nights</i>	1
<i>Days/Evenings</i>	2
<i>Days/Nights</i>	3
<i>Days</i>	4
<i>Evenings</i>	5
<i>Nights</i>	6

16. Do you work overtime?

Yes 1

No 2 (*Go to question #18*)

17. How many hours overtime do you work per month? _____

18. Why did you chose to work in critical care?

19. Please indicate if your hospital is considered to be a

Definitive care hospital 1

Community hospital 2

Other (please specify) _____

20. The bed capacity for your hospital is

<i>Less than 50 beds</i>	1
<i>50 to 100 beds</i>	2
<i>101 to 200 beds</i>	3
<i>201 to 500 beds</i>	4
<i>501 to 1000 beds</i>	5
<i>1001 beds or more</i>	6
<i>Unsure</i>	7

21. Please indicate the size of population in which your hospital is located.

<i>> 100,000</i>	1
<i>< 100,000</i>	2
<i>> 3,000</i>	3
<i>< 3,000</i>	4

Other (please specify) _____

22. Which Alberta health region do you work in?

<i>Chinook regional health authority</i>	1
<i>Palliser health authority</i>	2
<i>Headwaters health authority</i>	3
<i>Calgary regional health authority</i>	4
<i>Regional health authority #5</i>	5
<i>David Thomson regional health authority</i>	6
<i>East Central regional health authority</i>	7
<i>WestView regional health authority</i>	8
<i>Crossroads regional health authority</i>	9
<i>Capital health authority</i>	10
<i>Aspen regional health authority</i>	11
<i>Lakeland regional health authority</i>	12
<i>Mistahia regional health authority</i>	13
<i>Peace health region</i>	14

<i>Keewatinok Lakes regional health authority</i>	15
<i>Northern Lights regional health authority</i>	16
<i>Northwestern health services region</i>	17

23. Please indicate your gender.

Female **1**

Male **2**

24. What year were you born? _____

25. Please indicate your religious preference

Protestant **1** (*Go to question #26*)

Catholic **2** (*Go to question #26*)

None **3**

Prefer not to answer.... **4**

Other (please specify) _____ (*Go to question #26*)

26. How strong would you say your religious beliefs are?

NOT VERY STRONG

1

2

3

4

5

6

7

VERY STRONG

Any additional comments you may wish to make are welcome.

THANK YOU FOR TAKING THE TIME TO COMPLETE THIS QUESTIONNAIRE.

PLEASE RETURN THIS IN THE ENVELOPE PROVIDED BY SEPTEMBER 20, 1996.

APPENDIX C

Mail Reminder

A few weeks ago, you received a questionnaire regarding DNR status in critical care. This card is a friendly reminder that your response to the "Nurses' Perceptions Surrounding DNR Status in the Critical Care Setting" survey would be very much appreciated. If you have completed the survey and returned it as requested, thank you for your cooperation.

If, however, you have not had the opportunity to complete the questionnaire, you are invited to do so as soon as possible. Please return the questionnaire as requested. If the survey has been misplaced, please contact the AARN at 451-0043, extension 318, and another questionnaire will be mailed to you.

APPENDIX D

Access to AARN

02 April, 1996

Jocelyne Thibault-Prevost
17062-100 Street
Edmonton, AB T5X 5E1

Dear Jocelyne Thibault-Prevost:

Re: Access to AARN Membership Data

I am pleased to grant your request for access to the AARN membership list for the purpose of distribution of a questionnaire as specified in your letter of March 14, 1996.

Membership lists per se are never provided, but rather the request is accommodated by the use of the Association's mailing service. You will be charged for the costs associated with this mailing. The granting of this request is not to be interpreted as an endorsement of the project by the AARN.

This is a service provided on a cost-recovery basis to support nursing research and education. Generating the information or lists requested is scheduled as staff and computer times are available once AARN computer system requirements are met. Enclosed for your information is a copy of "Policies and Procedures for Accessing the Membership System" which includes information related to cost.

We would appreciate receiving a copy of your study for the AARN Library when it is complete.

Please contact Janet O'Donnell, Computer Coordination and Network Administrator, of this office (telephone 451-0043, ext. 318), concerning your specific needs and she will facilitate your request. It is helpful if you provide her with advance notice of your deadlines.

Sincerely,

Elizabeth J. Turnbull, RN, MN
Executive Director

cc: Joan Welch
Janet O'Donnell



University of Alberta Library



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